

2 December 2009

# Report on the Actuarial Investigation of the:

- State Authorities Superannuation Scheme
- State Authorities Non-Contributory Superannuation Scheme
- State Superannuation Scheme
- Police Superannuation Scheme

As at 30 June 2009

Volume II

SAS Trustee Corporation

## MERCER

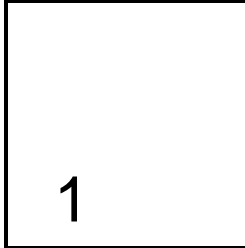


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## 1. Benefits and Contributions at 30 June 2009

### 1.1 SASS

#### 1.1.1 Definitions

"Accrued benefit points" at a contributor's exit date means the number of benefit points contributed to that date, or the contributor's maximum benefit points at that date if less.

"Accumulation of contributions" means, in respect of a contributor, the amount of contributions made to the Fund by that contributor plus interest less death and disability charges (if covered for additional benefits) less tax (where contributions are made on a salary sacrifice basis) less administration costs.

"Additional benefit" means the additional amount of 4% times final salary (or final average salary if higher) times prospective benefit points. The additional benefit is payable on death or total and permanent disability for those contributors who are covered. Contributors who are covered pay a levy (deducted from their accumulation of contributions) for one quarter of these additional benefits.

"Benefit points" - a contributor accrues 1/12th of a benefit point for each one per cent of salary contributed for a whole month. The maximum number of benefit points a contributor may accrue is the lesser of 180 or half the number of months the contributor is (or is deemed to be) a contributor to the Scheme.

"Continuous contributory service", in relation to a contributor, means the period beginning with the contributor's entry date and ending with the contributor's exit date.

"Early retirement age" means the age of 58 years or, if some lower age (but not lower than the age of 55) is prescribed, that lower age.

"Employers under Part 1" - The Crown and other employers. See Section 6.

"Employers under Part 3" - Hospitals and Other Bodies. See Section 6.

"Final average salary" in respect of a contributor means the average of full-time salaries on the contributor's exit date and on 31 December in each of the 2 years immediately preceding that in which he ceased to be an employee.

"Final salary" means the annual rate of full-time salary payable to a contributor immediately before exit.

"Prospective benefit points" means the future benefit points accruing to a contributor if he were to continue to contribute until early retirement age 58 (or earlier prescribed age) at the average rate at which he has contributed since becoming a contributor to a points-based scheme, limited to the points required to reach the contributor's maximum benefit points at early retirement age.

"Salary" means for contributions payable in a superannuation year commencing on 1 April the annual rate of salary paid to a contributor at the previous 31 December (or entry if later).

"Taxable date" means the date on which the Trustee first became liable to pay income tax under a Commonwealth taxation law in respect of employers' contributions to the Fund, which was 1 July 1988.

## **1.1.2 Contributions**

### *1.1.2.1 Contributions by contributors*

- contributors may elect to contribute at 1, 2, 3, 4, 5, 6, 7, 8 or 9 per cent of salary;
- STC may approve a contribution rate of 0% in some circumstances, eg financial hardship.
- the elected rate of contribution may be altered each superannuation year (commencing 1 April).
- contributions are payable until the end of the month prior to exit or until age 70.

### 1.1.2.2 Contributions by employers

- Part 1 employers - where the contributor is an employee of an employer under Part 1, the employer pays a multiple of employee contribution as determined by STC with the concurrence of the Treasurer.
- Part 3 employers - where a contributor is an employee of an employer under Part 3, the employer shall contribute 1.0 (or such higher factor prescribed with the concurrence of the Treasurer) times the contributor's contributions

### 1.1.3 Benefits

#### 1.1.3.1 Retirement on or after early retirement age

The benefit payable to a contributor on exit on or after early retirement age is:

- a lump sum equal to the accumulation of the former contributor's contributions; plus
- a lump sum equal to  $F \times A \times 0.025 \times (1 - 0.15 \times B/C)$ ;

Where F is the contributor's final average salary;

A is the contributor's accrued benefit points;

B represents the period in days of continuous contributory service that began on the taxable date;

C represents the period in days of continuous contributory service for the contributor;

0.15 represents the tax rate of the Fund on employers' contributions.

#### 1.1.3.2 Death

The benefit payable on death of the contributor after early retirement age is the benefit which would have become payable had he or she retired on the date of his death, but is not subject to reduction for tax, ie the factor B/C is zero.

The benefit payable on death of the contributor before attaining early retirement age is:

- a lump sum equal to the accumulation of the former contributor's contributions; plus
- a lump sum equal to  $S \times A \times 0.025$ ;

Where S is the former contributor's final salary, or final average salary if this is higher;

A is the former contributor's accrued benefit points;

plus

- where the contributor was covered for additional benefits, the amount of the additional benefit (ie 4% times S times prospective benefit points).

#### 1.1.3.3 *Total and permanent invalidity before early retirement age*

The benefit payable to a former contributor who retires before attaining early retirement age due to total and permanent invalidity is:

- a lump sum equal to the accumulation of the contributor's contributions; plus
- a lump sum equal to  $S \times A \times 0.025 \times (1 - 0.15 \times B/C)$ ;

Where S is the contributor's final salary or final average salary if this is higher;

A is the contributor's accrued benefit points;

B represents the period in days of continuous contributory service that began on the taxable date;

C represents the period in days of continuous contributory service for the contributor;

plus

- where a contributor is covered for additional benefits, the amount of the additional benefit (ie 4% times S times prospective benefit points).

#### 1.1.3.4 *Partial and permanent invalidity*

The benefit payable to a contributor who retires before attaining the early retirement age due to partial and permanent invalidity is:

- a lump sum equal to the accumulation of the contributor's contributions; plus
- a lump sum equal to  $S \times A \times 0.025 \times (1 - 0.15 \times B/C)$ ;

Where S is the contributor's final salary or final average salary if this is higher;

- A is the contributor's accrued benefit points;
- B represents the period in days of continuous contributory service that began on the taxable date;
- C represents the period in days of continuous contributory service for the contributor.

#### 1.1.3.5 *Retrenchment*

The benefit payable to a contributor who is retrenched before attaining the early retirement age is the same as for partial and permanent invalidity.

#### 1.1.3.6 *Resignation, dismissal or discharge after 10 years' membership*

The benefit payable to a contributor who resigns or is dismissed or discharged before attaining the early retirement age and who has been a member for 10 years or more is:

- a lump sum equal to the accumulation of the contributor's contributions; plus
- a lump sum equal to  $(V - 0.15 \times T) \times R \times A/Y \times 0.025$ ;

Where V is the number of years of continuous contributory service (including fractional parts of a year);

T is the number of years of continuous contributory service that commenced on the taxable date or entry date (whichever occurred later) including fractional parts of a year;

R is the contributor's accumulated contributions;

A is the contributor's accrued benefit points;

Y is the total benefit points the member would have accrued at exit had no maximum applied.

That part of the benefit above the maximum non-deferred amount calculated at 1 July 1999 must be taken in deferred form.

#### 1.1.3.7 *On attainment of age 65 or 70*

On attainment of age 65, or at an age between 65 and 70 as elected by the contributor (providing the contributor continues to work at least 10 hours per week), the contributor must be paid the retirement benefit, but may elect to preserve the benefit. After attainment of age 70 no further benefits may accrue and no further contributions are payable.

### 1.1.3.8 *Deferred benefits*

A contributor who becomes entitled to a benefit on retrenchment, resignation, dismissal or discharge, on early retirement or attainment of age 65 (or 65 to 70 if relevant) may elect instead for a deferred benefit unless the benefit is less than \$500 or the contributor elects to take a cash benefit. The deferred benefit is payable on:

- application on attainment of early retirement age;
- death;
- total and permanent invalidity before early retirement age;
- retirement from the workforce (or effective retirement after 65 or 70 defined as working less than 10 or 30 hours a week respectively);
- on application if the benefit was deferred after early retirement age.

The deferred benefit is:

- a lump sum equal to the accumulated contributor's contributions, plus interest from the date of exit to the date of payment; plus
- a lump sum equal to  $F \times A \times 0.025 \times D \times (1 - 0.15 \times B/C)$  plus interest from the date of exit to the date of payment.

Where	F	is the contributor's final average salary;
	A	is the contributor's accrued benefit points;
	D	equals an actuarial discount factor (currently 0.99 for ages at exit under early retirement age, otherwise 1.0) raised to the power of (early retirement age less age at exit including fractions of a year);
	B	represents the period in days of continuous contributory service that began on the taxable date;
	C	represents the period in days of continuous contributory service for the contributor.

A retrenched member may elect to preserve, instead of the above, the amount of the cash retrenchment benefit.

A member may elect instead to receive a cash benefit (limited to the maximum amount to which he would have been entitled at exit) plus interest to the date of payment at an earlier date than the deferred benefit (which would then be appropriately reduced to reflect the cash payment).

#### 1.1.3.9 Provisions for part-time contributors

- (i) Benefits are calculated on the equivalent full-time salary.
- (ii) Accrued benefit points for each month are reduced by salary ratio (actual salary divided by salary if full-time).
- (iii) The maximum number of points attainable is scaled down by salary ratio for each month.
- (iv) Prospective benefit points are scaled down by salary ratio at commencement of month in which exit occurs.
- (v) Contributions are reduced by applying the salary ratio.

#### 1.1.3.10 Superannuation Guarantee

The employer-financed benefit on exit for any reason, together with the employer-financed benefit payable for the State Authorities Non-Contributory Superannuation (SANCS) Fund is subject to a minimum benefit as specified in the current Benefit Certificate so that benefits paid by these schemes can be used to meet employers' obligations under the Superannuation Guarantee (Administration) Act. The shortfall, if any, is to be provided from the SANCS Fund.

The MRB (Minimum Requisite Benefit) specified in the Benefit Certificate adopted in the valuation in respect of SASS members is described below. This is the amount below which the combined SASS and SANCS benefits payable may not fall. The MRB is that set out in the Benefit Certificate valid from 1 July 2008, extended in a consistent manner to cover future periods.

MRB = the accumulation of the former contributor's contributions (including salary sacrifice contributions net of tax, and any co-contributions); plus

- a pre 1 July 1992 component; plus
- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2

where FASEX is the contributor's final average salary at exit

FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and ending on the date of determination.

DF is .7 for age at exit < 45  
 1 - .015 x (65 - age at exit) for 45 < age at exit < 65  
 1 for age at exit >= 65.

SGLM1 is the total accrued Superannuation Guarantee Levy multiple at 30 June 2008 comprising the sum over the contributor's service to 30 June 2008 of the multiple applying at a particular period times the number of years service during that period where the multiples are as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	01/07/92 to 31/12/92
.05	01/01/93 to 30/06/95
.06	01/07/95 to 30/06/98
.07	01/07/98 to 30/06/00
.08	01/07/00 to 30/06/02
.09	after 01/07/02

SGLM2 is the total accrued Superannuation Guarantee Levy multiple accrued post 1 July 2008 comprising the contributor's service from 1 July 2008 to exit date times the multiple applying at that period.

The pre 1 July 1992 component is the total of employer-financed cash benefits which would have been paid had the contributor resigned or retired on 1 July 1992 (except that for final salary or final average salary the amount used is the fund salary at 1 July 1992, ie. salary at 31 December 1991) updated to the date of MRB calculation by the ratio of FASEX to salary at 31 December 1991 or later entry.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

#### 1.1.3.11 *Transitional arrangements – Recognition of Previous Scheme membership*

##### **A. Public Authorities Superannuation Scheme (PASS)**

- (i) The additional benefit and associated levy automatically applies to a contributor who was qualified for the additional benefit under the PASS;
- (ii) The contributor's account was to be credited at 1 April 1988 with the corresponding account balance under the PASS as at 31 March 1988;
- (iii) Initial accrued benefit points will be the number of accrued benefit points under PASS as at 31 March 1988 multiplied by 0.72;

- (iv) The contributor's entry date is deemed to be the date service commenced or was deemed to have commenced under PASS;
- (v) Prospective benefit points will be subject to a minimum of 0.7 times the number of prospective benefit points that would have been calculated if early retirement age were 60;
- (vi) Benefits are reduced where broken service has been recognised in the case of a contributor who had employment involuntarily terminated under Clause 5 of the New South Wales Retirement Benefits Regulation 1983;

#### **B. Local Government Pension Fund (LGPF)**

- (i) Transitional arrangements for ex-LGPF members are as for ex-PASS members with some additional special provisions.
- (ii) An additional lump sum is payable to qualified contributors on death or total and permanent disablement before age 60 equal to

$$\frac{S}{100} \times (P-R)$$

Where S is final salary;

P is prospective benefit points to age 65;

R is prospective benefit points under SASS.

- (iii) Minimum lump sum benefits on death or total and permanent disablement apply to certain contributors.
- (iv) Employer-financed benefits on retirement after age 60 may be taken completely or in part pension form as for LGPF except that benefit points provide .2223% pension, discounted for retirement before age 65 (special additional pension points are provided to ensure pensions always exceed LGPF pensions), as follows:

$$\text{Pension} = S \times C \times .002223 \times (1 - .025T)$$

Where S is final average salary

C is the number of benefit points converted to pension

T is the number of whole years that the member's exit date precedes his 65<sup>th</sup> birthday.

These benefits are subject to a reduction to account for contribution tax liability to the Fund as follows:

$$\text{Reduction} = A \times B/C \times Q \times 0.15 \times \text{Pension Benefit}$$

Where A represents the contributor's accrued benefit points;

B represents the period in days of continuous contributory service that began on the taxable date;

C represents the period in days of continuous contributory service for the contributor;

Q represents the proportion of accrued benefit points to be converted to a pension.

There are also pension options on death and disability.

- (v) Pensions in respect of children are payable as for LGPF. The rate as at 30 June 2009 was \$104.53 per fortnight where a parent survives or \$248.30 per fortnight where no parent survives. The total pension to dependants is not to exceed that which would have been payable on total and permanent disablement.

### C. NSW Retirement Fund (NRF)

- (i) Transitional arrangements for ex-NRF members are as for ex-PASS members with some additional special provisions.
- (ii) Contributions may be made at rates specified by regulation such that a certain benefit point accrual is attained (except that contributions shall not exceed 9% of salary).
- (iii) Points accrual for each 1% of salary contributed after 1 April 1988 and before attainment of age 59 11/12 by contributors born in May 1926 or later may be obtained from Schedule 2 to the Regulation "State Authorities Superannuation (Transitional Provisions) Regulation 1988" (subject to a maximum annual accrual of 9 points), or is calculated as  $(L \times 1.8 + 0.7)/2.5$  if greater.

Where L is 1/9 of the maximum points the contributor could have acquired in the year commencing 1 April 1987

To accrue each benefit point the percentage of salary to be contributed by contributors born in April 1926 or earlier is the smaller of (percentage contribution rate at 31 March 1988)/(adjusted points limit), subject to a maximum annual accrual of 9 points or the adjusted points limit if greater, and 1%. The adjusted points limit is

$$\frac{(N \times 1.8 + 0.7)}{2.5}$$

Where N is the number of points accrued in the year commencing 1 April 1987.

(If a contributor is contributing 0% on 31 March 1988 they shall be deemed to be contributing 1%).

(iv) Employer-financed benefits and additional benefits may be taken in pension form as for NRF (ie as for LGPF with additional option to take a non-reversionary pension with higher value, the factor being .2778%).

(v) Minimum benefits are provided on death or invalidity before early retirement age.

**D. State Public Service Superannuation Scheme (SPSSS)**  
(transferred at 1 April 1989)

(i) The additional benefit and associated levy will automatically apply to a contributor who was qualified for the supplementary benefit under the SPSSS.

(ii) The contributor's account will be credited at 1 April 1989 with the corresponding account balance under the SPSSS as at 31 March 1989.

(iii) Initial accrued benefit points will be the number of accrued benefit points under SPSSS as at 31 March 1989.

(iv) The contributor's entry date will be deemed to be the date service commenced or was deemed to have commenced under SPSSS.

(v) The initial contributed points figure will be the corresponding figure under SPSSS.

(vi) The contributor's early retirement age is prescribed as age 55.

(vii) The maximum benefit points applying to a transferred contributor are:

age 55 or less	162
age 55 to 58	162 plus 6 per year after age 55
age 58 or more	180

(viii) The employer financed benefits are to be calculated using a multiple of 0.03 except for benefits on resignation, dismissal or discharge before early retirement where a multiple of 0.025 is used.

**E. Transport Officers' Gratuity Scheme (TOGS)**  
(transferred at 1 April 1989)

- (i) Initial accrued benefit points will be calculated as follows:

$$P = Y \times 2.3$$

Where Y represents the number of completed years of service (with the fractional part of any year calculated on the basis of completed calendar months) which would have been taken into account under TOGS before 1 April 1989.

- (ii) For each year of service after 1 April 1989 both contributors and non-contributors shall accrue 2.3 benefit points per annum in addition to any other accrual of benefit points under standard SASS provisions.
- (iii) Transferred transport officers may elect to contribute at 0, 1, 2, 3, 4, 5, 6 or 6.7 per cent of salary.

Officers who elect to contribute at 1% or more on transfer cannot subsequently elect to become non-contributors.

- (iv) The contributor's entry date will be deemed to be the date service commenced or was deemed to have commenced under TOGS.
- (v) The points calculated under (i) and (ii) above will only be applied in the calculation of benefits paid on retirement, death, invalidity or retrenchment while employed by an employer which participated in TOGS. These points do not apply in the calculation of a resignation benefit or deferred benefit calculated under section 43.
- (vi) Minimum benefits apply on exit from the Fund at or after early retirement age.

**F. Closed Local Government Schemes**

Local Government Provident Fund and Superannuation Benefits Funds and Local Government Superannuation Board insurance policyholders (effective 1 May 1990).

- (i) The additional benefit and associated levy will automatically apply to a contributor who was qualified for the additional benefit in the Benefits Fund or was an insurance policyholder.
- (ii) Accumulated credits and the proceeds on cancellation or surrender of insurance policies for each transferred contributor are allocated in certain ratios between contributor account and employer reserve.
- (iii) A "notional accumulation" is developed from the amount allocated to the employer reserve plus estimated notional future employer contributions plus interest.

- (iv) Initial accrued benefit points are calculated based on various formulae as stated in the "State Authorities Superannuation (Closed Local Government Schemes Transfer) Regulation 1990":

Insurance policyholders and fixed rate Provident Fund contributors	- points calculated according to Schedule 1 to the Regulation, based on sum assured and date of contribution/premium payment
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Variable rate Provident Fund contributors	- 0.02 points per 1% of salary contributed per month to 30 June 1985 and 0.03 points per 1% per month from 1 July 1985 to 30 April 1990
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Benefits Fund	- 0.21 points per month of contributory membership
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- (v) Minimum employer financed benefits of the "notional accumulation" are provided.
- (vi) A minimum death and invalidity benefit based on a multiple of salary plus the notional accumulation applies to former Benefits Fund members covered for additional benefits.
- (vii) Early retirement age is 55 for ex-Sydney County Council employees with twenty or more years of service and for ex-Benefits Fund females.

Transferred contributors may elect to contribute at normal SASS rates.

Transferred contributors who do not make an election are deemed to have elected the following:

Benefits Fund and variable rate Provident Fund contributors	- 3.5%
Insurance policyholders and fixed rate Provident Fund contributors	- 1%

**G. Government Railways Superannuation Scheme (RSA)**  
(Transferred at 1 June 1990)

- (i) Ex-RSA contributors may elect to contribute at 1, 2, 3, 4, 5, 6, 7, 8 or 9 per cent of salary. Anyone not electing a rate will be assumed to have elected to contribute at 1 per cent.
- (ii) The contributor's account will be credited at the date of transfer with the corresponding RSA account balance at that date.
- (iii) Initial accrued benefit points will be calculated by the following formula:

$$TP = \frac{(1/40 \times K \times S \times 10) - EC}{W \times 0.025}$$

Where TP represents the number of points to be calculated ("Transfer Points"), rounded up to four decimal places;

K represents the amount of \$1,600 (CPI indexed);

S represents the number of complete years of service of the transferred contributor (maximum 40 years);

EC represents the contributions of the transferred contributor

W represents salary.

- (iv) Transferred contributors may under certain circumstances elect a pension benefit with lower lump sum rather than the SASS lump sum.
- (v) The contributor's entry date will be calculated by subtracting from the transfer date the number of days of RSA service during which contributions were made to the account recognised under (iii) above, except that for the calculation of final average salary and prospective benefit points the entry date will be deemed to be the transfer date.

**H. Hunter District Water Board Employees' Provident Fund (HDWB)**  
(effective 1 July 1990)

- (i) The contributor's account will be credited at 1 July 1990 with sub-accounts 1 and 2 of the contributor's account in the HDWB Fund as at 30 June 1990.
- (ii) The employer reserve in SASS will be credited at 1 July 1990 with sub-accounts 3 and 4 of the contributor's account in the HDWB Fund as at 30 June 1990.
- (iii) The contributor's entry date will be deemed to be the date service commenced or was deemed to have commenced under HDWB, except that for the calculation of final average salary and prospective benefit points the entry date will be deemed to be 1 July 1990.

- (iv) Initial accrued benefit points will be calculated as per the following formula:

$$P = \frac{E}{0.025 \times W}$$

Where P represents the initial points credit;

E represents the amount relating to the contributor which was credited to the appropriate employer reserve in the SASS Fund from sub-accounts 3 and 4 of the HDWB Fund;

W represents the contributor's annual salary at the transfer date.

- (v) A notional accumulation is set up for each transferred contributor consisting of sub-accounts 3 and 4 of the HDWB Fund plus a notional future contribution based on a percentage of salary as set out in the transfer Regulation.
- (vi) Minimum benefits based on the notional accumulation are provided on death or invalidity before early retirement age if not covered for additional benefits, or on resignation before early retirement age.
- (vii) Transferred contributors may elect to contribute at normal SASS rates or at the rate at which they were contributing to the HDWB Fund prior to transfer, rounded up to the nearest whole percentage.

#### 1.1.4 Legislative Changes

Amendments affecting benefits coming into effect since 1 July 2006 (including presaged changes) are summarised below:

- Provisions facilitating consistency of salary sacrifice contributions across schemes;
- Provisions clarifying transfer rights of senior executive service members.
- The change in the definition of salary from superannuation salary to OTE for purposes of the Superannuation Guarantee legislation necessitated changes to the MRB defined in the Benefit Certificate.

## 1.2 SANCS

### 1.2.1 Definitions

"Contributing Employee" is an employee who is a contributor to an associated superannuation scheme (SASS, SSS or Police Superannuation Scheme). All others are deemed "non-contributing employees".

"Eligible service" in respect of a member means service with an Employer. The eligible service accrued in respect of any day is a proportion of one day equal to the salary ratio of the member on that day.

"Employers under Part 1" - The Crown and other employers. See Section 6.

"Employers under Part 3" - Hospitals and Other Bodies. See Section 6.

"Final average salary" in respect of a member means the average of full time or attributed salaries on the member's exit date and on 31 December in each of the two years immediately preceding that in which he/she ceased to be a member.

"Final salary" means the annual rate of full time or attributed salary payable to a member immediately before exit.

"Salary ratio" means for a part-time employee the ratio of the employee's salary to the salary that would be payable to the employee if he/she was a full time employee. The salary ratio of a full-time employee equals 1.0.

"Taxable date" means the date on which the Trustee first became liable to pay income tax under a Commonwealth taxation law in respect of employers' contributions under the Scheme. Thus the taxable date is 1 July 1988.

### 1.2.2 Contributions

- Part 1 employers - where the member is an employee of an employer under Part 1, the employer pays a percentage of the salary of the member as determined by the Trustee with the concurrence of the Treasurer.
- Part 3 employers - where the member is an employee of an employer under Part 3, the employer pays a percentage of the salary of the member as determined by the Trustee with the concurrence of the Treasurer.

#### 1.2.2.1 Contributions by members: Nil

### 1.2.3 Benefits

#### 1.2.3.1 Death

The benefit payable on death of a member is calculated as:

a lump sum equal to  $0.03 \times F \times Y$

Where F is, in the case of a member who is aged 55 or over, the member's final average salary; or in any other case the member's final salary

Y is the years of eligible service commencing on 1 April 1988 or entry date (whichever is the later) including fractional parts of a year on a daily basis

#### 1.2.3.2 Retirement, Resignation, Retrenchment and Total and Permanent Invalidity

The benefit payable on the retirement, resignation, retrenchment, total and permanent invalidity or any other prescribed circumstances is as follows:

a lump sum equal to  $0.03 \times F \times (Y - 0.15 \times Z)$

Where F is, in the case of the retrenchment or cessation of employment before age 55 due to physical or mental incapacity of a member, the member's final salary; or in any other case the member's final average salary

Y is the years of eligible service commencing on 1 April 1988 or entry date (whichever is the later) including fractional parts of a year

Z is the years of eligible service commencing on the taxable date or entry date (whichever is the later) including fractional parts of a year on a daily basis represents the tax rate of the Scheme for employer's contributions

#### 1.2.3.3 Preservation of Benefits

All benefits are subject to the preservation rules as prescribed by the Superannuation Industry (Supervision) Regulations.

#### 1.2.3.4 Provisions for Part-Time Employees

In the case of part-time employees the amount of eligible service accrued by the employee is reduced in proportion to the salary ratio.

**1.2.4 Superannuation Guarantee**

Members are entitled to minimum benefits assuming no superannuation guarantee shortfall under the Acts governing the associated superannuation schemes. The difference between the unsupplemented benefit and the minimum benefit is payable from the appropriate reserve in the SANCS Scheme.

The Minimum Requisite Benefit (MRB) specified in the current Benefit Certificate is described below. This is the minimum applying to the total benefits payable from SANCS and the associated superannuation scheme in respect of a member on exit.

In the case of SASS or SSS members:

MRB = the accumulation of the former contributor's contributions (including salary sacrifice contributions net of tax, and any co-contributions); plus

- a pre 1 July 1992 component; plus
- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2

where FASEX is the contributor's final average salary at exit

FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and ending on the date of determination.

DF is .7 when age at exit < 45  
 .7 + .015 x (65 - age at exit) when 45 < age at exit < 65  
 1 when age at exit >= 65

SGLM1 is the accrued Superannuation Guarantee Levy Multiple at 30 June 2008 where the multiples accrued are as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	01/07/92 to 31/12/92
.05	01/01/93 to 30/06/95
.06	01/07/95 to 30/06/98
.07	01/07/98 to 30/06/00
.08	01/07/00 to 30/06/02
.09	after 01/07/02

SGLM2 is the Superannuation Guarantee Levy multiple accrued post 1 July 2008.

The pre 1 July 1992 component is the total of the employer-financed benefits (from SANCS and the associated scheme) which would have been paid had the contributor resigned or retired on 1 July 1992 (except that for final average salary or final salary the amount used is the fund salary at 1 July 1992 for SASS members. For SSS members, salaries and commutation factors are as set out in the Benefit Certificate) updated to exit date by the ratio of FASEX for SASS members, final salary at exit for SSS members, to fund salary at 1 July 1992.

Further, in the case of SSS members the Minimum benefit is limited to:

The amount provided by an alternative MRB equal to the SSS benefit plus the SANCS benefit plus a post 1 July 1992 amount calculated using Superannuation Guarantee Levy Multiples 3% lower than in the table above; with the further proviso that the minimum SSS benefit for purposes of the alternative MRB calculation is the member's accumulated contributions.

In the case of PSS members:

MRB = • a pre 1 July 1992 component; plus

- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2; plus
- 0.06 / 0.85 x post 1 July 1992 service x DF x FS

where FASEX, FASOTE, DF and SGLM are as for SASS and SSS above

FS is final salary at exit

the pre 1 July 1992 component is the total of the cash benefit from SANCS which would have been paid had the contributor resigned or retired on 1 July 1992; plus 85% of the vested benefit as for the PSS at 1 July 1992; plus 15% of the member's contributions between 1 July 1983 and 30 June 1992; updated to exit date by the ratio of FS to fund salary at 1 July 1992.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

### 1.2.5 Legislative Changes

Amendments affecting benefits coming into effect since 1 July 2006 are summarised below:

- Provisions to facilitate calculation of superannuation salary when salary sacrifice contributions are made.
- The change in the definition of salary from superannuation salary to OTE for purposes of the Superannuation Guarantee legislation necessitated changes to the MRB defined in the Benefit Certificate.

## 1.3 SSS

### 1.3.1 Definitions

"Annual review date" means for contributors whose birthday falls in the first half of the calendar year, 28 July, for the rest 9 February.

"Annual adjustment date" means for contributors whose birthday falls in the first half of the calendar year, 21 October, for the rest 5 May.

"Abandoned Units" are units for which no contribution is being made. The amount of these is the difference between Unit Entitlement and Contributory Units. They are also referred to as Reduced Value Units.

"Accumulation of contributions" means, in respect of a contributor, the amount of contributions made to the Fund by that contributor plus interest. Interest was at the rate of 3.5% pa until 30 June 1972, thereafter a rate determined by the Trustee based on the earnings of the Fund. This is called the "33B Accumulation" and is the amount maintained in respect of each contributor in the Contributors' Reserve.

"Contributory Units" are units for which the member is paying (or has paid) contributions.

"Retirement Age" is 60 years, except in the case of a woman who elects to contribute at rates to retire at age 55 (denoted R55 members), for whom it is 55 years.

"Unit Entitlement" - A member's unit entitlement is governed by the amount of salary notified as being received, in accordance with the following formula-

$$\text{Salary} / \$260 + 9 \times \text{factor}$$

where 'factor' is an allowance for the increase shown in the last published Consumer Price Index (All Groups) Sydney since 30 June 1982. The two components of the entitlement are separately calculated and their total rounded up to the next whole number.

"Salary" means the annual rate of salary paid to a contributor at the relevant date (exit, annual review date).

"Taxable date" means the date on which the Trustee became liable to pay income tax under Commonwealth taxation law in respect of employers' contributions to the Fund, which was 1 July 1988.

## 1.3.2 Contributions

### 1.3.2.1 *Employee Contributions*

- Employees pay a 4-weekly contribution towards each contributory unit. The total contribution payable over each year depends on the number of units held and the cost per unit, and is adjusted each annual review date with effect from the annual adjustment date.
- An employee must contribute for the full unit entitlement as at the annual review date unless the resulting contributions would exceed 6% of salary, when units may be 'abandoned'. Abandoned units confer a smaller benefit entitlement, but may be 'taken up' on exit or next annual review day.
- The contribution per unit depends on:
  - the employee's sex and age when contributions for the unit commence,
  - for a female, whether election has been made to contribute for retirement on full pension at age 55, and
  - the date of commencement of service.
- Contributions for units commenced before (5 years prior to the Retirement Age) cease at Retirement Age. Contributions for units taken up after attaining age 55 (or 50 for R55 females) are payable over five years in 65 instalments (with any instalments outstanding at retirement due then).
- Contributions cannot be accepted from a contributor over 70 years of age.
- During periods of leave without pay in excess of three months, a contributor has the option of accepting a permanent reduction in unit entitlement, otherwise the contributor may be required to pay the employer liability during the period of leave without pay.

### 1.3.2.2 *Employer Contributions*

- Employers are required to meet the balance of the cost of benefits, ie that part of the benefit not covered by the Contributor's Reserve plus expenses and Contributions Tax.
- The amount of the contribution payable by the employer is a multiple of the contributions made by the employees. The multiple for each employer is periodically fixed by the Trustee, having regard to meeting the full cost of the liabilities under this Division.
- An Employer Reserve is maintained for each employer into which contributions are paid and interest earnings credited. Benefit payments, expenses and taxes are paid from this reserve. When an employee becomes eligible for a benefit, the contributor reserve (limited to the total value of the benefit) is transferred into the employer reserve and the employer reserve becomes liable for the total benefit (ie all future pension payments).

### 1.3.3 Benefits

#### 1.3.3.1 Retirement on or after attaining retirement age

Subject to completion of at least ten years of service, a fortnightly pension commencing at

$$(\$5.50 \times \text{CU} + \$3.30 \times \text{RVU}) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- CU = contributory units  
 RVU = abandoned or reduced value units  
 0.15 = the tax rate of the Fund on the employers' contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{unreduced pension} \times \text{capitalisation factor} - 33\text{B accumulation at exit})}{(\text{unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is  $(\$5.50 \times \text{CU} + \$3.30 \times \text{RVU})$ , and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time.

#### 1.3.3.2 Early Retirement

Subject to continuous contribution to the Fund for at least ten years, a reduced pension is payable on retirement after having attained the age of 55 years if contributing at rates prescribed for retirement at age 60. The amount of the fortnightly pension at commencement is:

$$(\$2.20 \times \text{EPU} \times (1 - .07 \times \text{TM}) + \$3.30 \times \text{UE} \times \text{S} / (\text{S} + \text{TM}) \times (1 - .04 \times \text{TM})) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

EPU = Contributory units adjusted to reflect non-payment of contributions due to early retirement.  
 TM = number of years (with fractions included on daily basis) from exit date to Retirement Age  
 UE = Unit Entitlement in respect of salary at exit  
 0.15 = the tax rate of the Fund on the employers' contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 Ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{unreduced pension} \times \text{capitalisation factor} - 33B \text{ accumulation at exit})}{(\text{unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is:

$$(\$2.20 \times \text{EPU} \times (1 - .07 \times \text{TM}) + \$3.30 \times \text{UE} \times \text{S} / (\text{S} + \text{TM}) \times (1 - .04 \times \text{TM})),$$

and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time.

#### 1.3.3.3 Retirement owing to physical or mental incapacity

A proportion of the full retirement pension; the proportion being 80 per cent immediately on joining the Fund, increasing uniformly each year thereafter to reach 100 per cent either after ten years of contributory service, or at normal retirement age, whichever occurs first. The pension at commencement is:

$$\text{P(DIS)} \times (\$5.50 \times \text{CU} + \$3.30 \times \text{RVU}) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

P(DIS) = proportion between .8 and 1.0 depending upon years of service  
 CU = Contributory units  
 RVU = Abandoned or reduced value units  
 0.15 = the tax rate of the Fund on the employers' contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service the contributor would have attained had he remained in service until his retirement age.  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{unreduced pension x capitalisation factor} - 33B \text{ accumulation at exit})}{(\text{unreduced pension x capitalisation factor})}$$

where the unreduced pension is  $P(\text{DIS}) \times (\$5.50 \times \text{CU} + \$3.30 \times \text{RVU})$ , and the capitalisation factors are valuation factors for invalidity pensions at emergence depending on age and sex supplied for this purpose from time to time. Reemployment and Scheme reinstatement can occur if health is restored.

#### 1.3.3.4 *Resignation, dismissal or discharge*

- a lump sum equal to the employee's accumulation of contributions, plus
- if contributory service exceeds ten years, an additional lump sum of  $.025 \times A \times \text{TS} \times (1 - 0.15 \times B/C)$

where:

- A = the employee's accumulation of contributions
- TS = years of contributory service (including fraction parts of a year)
- 0.15 = the tax rate of the Fund on the employers' contributions
- B = the period in days of contributory service that began on the taxable date
- C = the period in days of the contributory service for the contributor

Alternatively, at the option of the employee, a benefit may be deferred in the Fund until retirement or earlier death or disability.

The total lump sum resignation benefit is capped at the lump sum payable to a contributor on commutation of the retirement pension he/she would have been entitled to had they been age 55 (or current age if higher). The retirement pension for contributors under age 55 is the deferred pension adjusted for commencement at age 55.

#### 1.3.3.5 *Death*

On the death of a married contributor a pension is payable to the spouse at two-thirds of the rate of the pension which would have been payable to the contributor had he or she retired on the grounds of ill-health (but with the tax reduction calculated using the capitalised value of the spouse pension to derive the proportion employer financed). In addition, a pension is paid for each eligible child. If the spouse then dies, the excess of the resignation benefit over spouse benefits already paid is refunded to the deceased contributor's personal representative. Any child's pension can be ignored or may cause the excess payment to be delayed.

At 30 June 2009 the pension payable in respect of a child, independent of the number of units held, was \$104.53 per fortnight for each child under 18 years (or 25 if a full time student), or \$248.30 per fortnight if both parents are deceased (an orphan's pension).

On the death before retirement of an unmarried contributor, at the Trustee's discretion a cash withdrawal benefit as in 1.3.3.4 but without reduction for contributions tax, is payable to the deceased personal representative, or an orphan's pension is payable to each eligible child and members contributions without interest. The guaranteed minimum then applies when the child's pension ceases.

On the death of a married pensioner, a pension is payable to the spouse (but only if married prior to the pensioner's retirement or married to an invalidity pensioner for the 3 years immediately prior to the retirement age), equal to two-thirds of the pension that the deceased pensioner would have been receiving if none of it had been commuted, and children's pensions as above.

#### 1.3.3.6 *Retrenchment*

After three years contributory service, an immediate lump sum is payable (unless aged 55 years or over) equal to

$$(\$2.20 \times \text{EPU} \times (0.96^{M-A}) \times F + \$3.30 \times \text{UE} \times S / (S + \text{TM}) \times (0.98^{M-A}) \times F) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- EPU = contributory units adjusted to reflect non-payment of contributions due to shorter service.
- M = retirement Age
- A = age in years (including fractional parts of a year) on the exit date
- F = 285 if M = 60; 320 if M = 55
- UE = Unit Entitlement in respect of salary at exit
- S = number of years of contributory service (with fractions included on a daily basis)
- 0.15 = the tax rate of the Fund on the employers' contributions
- B = the period in days of contributory service that began on the taxable date
- C = the period in days of the contributory service for the contributor
- TM = Number of years from exit to Retirement Age
- ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced benefit} - 33\text{B accumulation at exit})}{(\text{Unreduced benefit})}$$

where the unreduced benefit is:

$$(\$2.20 \times \text{EPU} \times (0.96^{M-A}) \times F + \$3.30 \times \text{UE} \times S / (S + \text{TM}) \times (0.98^{M-A}) \times F)$$

Alternatively the benefit may be taken as an equivalent pension or a deferred benefit.

#### 1.3.3.7 Pensions

Pensions in payment are adjusted each October in line with the Consumer Price Index (All Groups) Sydney.

A pension, other than a child's pension, may be exchanged for a lump sum, at age 55 years or later emergence. A further right of commutation applies at age 60 to a person whose pension emerged from that age and who did not exercise their right to commute. Commutation factors per dollar of fortnightly pension are specified in the Act. On commutation by an ex-contributor of all or part of a pension, the reversionary pension to a spouse is unaffected.

#### 1.3.3.8 Deferred Benefits

A contributor who becomes entitled to a benefit on retrenchment, resignation, dismissal or discharge, on early retirement or attainment of age 65 (or 65 to 70 if relevant) is provided with a deferred benefit. The deferred benefit commences payment on:

- application on attainment of early retirement age. The pension components are then reduced by the early retirement discount factors (P1 by 7%, P2 by 4%);
- death;
- total and permanent invalidity before early retirement age;
- retirement from the workforce (or effective retirement after 65 or 70 defined as working less than 10 or 30 hours a week respectively). Early retirement discount factors apply if age is less than normal retirement age.
- application if the benefit was deferred after early retirement age. Early retirement discount factors apply if age at commencement is less than normal retirement age.

The deferred benefit is a deferred pension calculated in two components. The amount of the fortnightly pension components at preservation date is set out below. Between deferral date and commencement the "employer-financed component" (P2) is indexed to CPI.

$$\text{Total Pension} = (P1 + P2U) \times (1 - 0.15 \times B/C \times \text{ppn e'er})$$

$$P2 = \text{Total Pension} - P1$$

where:

- P1 = \$2.20 x EPU  
 P2U = \$3.30 x UE x S / (S + TM)  
 EPU = contributory units adjusted to reflect non-payment of contributions due to early exit.  
 TM = number of years (with fractions included on daily basis) from exit date to Retirement Age  
 UE = Unit Entitlement in respect of salary at exit  
 S = number of years of contributory service (with fractions included on a daily basis)  
 0.15 = the tax rate of the Fund on the employers' contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Capitalised unreduced pension} - 33B \text{ accumulation at exit})}{(\text{Capitalised unreduced pension})}$$

where the capitalised unreduced pension is:

$$(P1 \times \text{employee component capitalisation factor} + P2U \times \text{employer component capitalisation factor}),$$

and the capitalisation factors are valuation factors for deferred pensions at preservation depending on age and sex supplied for this purpose from time to time.

#### 1.3.3.9 Provisions for part time contributors

A contributor may move to permanent part-time employment. Contributions paid prior to the change will purchase paid-up units, and a permanent reduction in unit entitlement is made, to reflect the service that will not be given. Appropriate provisions are made for subsequent changes in hours worked.

### 1.3.3.10 Superannuation Guarantee

The employer-financed benefit on exit for any reason, together with the employer-financed benefit payable for the State Authorities Non-Contributory Superannuation (SANCS) Fund is subject to a minimum benefit as specified in the current Benefit Certificate so that benefits paid by these schemes can be used to meet employers' obligations under the Superannuation Guarantee (Administration) Act. The shortfall, if any, is to be provided from the SANCS Fund. The employee-financed benefit from SSS is defined as the s33B Accumulation (or total benefit if less), and the balance of the benefit is the employer-financed benefit.

The MRB (Minimum Requisite Benefit) specified in the Benefit Certificate adopted in the valuation in respect of SSS members is described below. This is the amount below which the combined total SSS and SANCS benefits payable may not fall. The MRB is that set out in the Benefit Certificate valid from 1 July 2008, extended in a consistent manner to cover future periods.

MRB = the accumulation of the former contributor's contributions (including salary sacrifice contributions net of tax, and any co-contributions); plus

- a pre 1 July 1992 component; plus
- FASEX  $\times 1.0524 \times DF \times SGLM1$ ; plus
- FASOTE  $\times 1.08 \times DF \times SGLM2$

where FASEX is the contributor's final average salary at exit

FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and ending on the date of determination.

DF is .7 when age at exit < 45  
 $.7 + .015 \times (65 - \text{age at exit})$  when  $45 < \text{age at exit} < 65$   
 1 when age at exit  $\geq 65$

SGLM1 is the accrued Superannuation Guarantee Levy Multiple at 30 June 2008 where the multiple accrued as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	01/07/92 to 31/12/92
.05	01/01/93 to 30/06/95
.06	01/07/95 to 30/06/98
.07	01/07/98 to 30/06/00
.08	01/07/00 to 30/06/02
.09	after 01/07/02

SGLM2 is the Superannuation Guarantee Levy multiple accrued post 1 July 2008.

The pre 1 July 1992 component is the total of the employer-financed benefits (from SSS and SANCS) which would have been paid had the contributor resigned or retired on 1 July 1992 with salaries and commutation factors as set out in the Benefit Certificate, updated to exit date by the ratio of final salary at exit to fund salary at 1 July 1992.

The Minimum Benefit as derived above is limited to:

The amount provided by an alternative MRB equal to the SSS benefit plus the SANCS benefit plus a post 1 July 1992 amount calculated using Superannuation Guarantee Levy Multiples 3% lower than in the table above; with the further proviso that the minimum SSS benefit for purposes of the alternative MRB calculation is the member's accumulated contributions.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

#### 1.3.4 Legislation Changes

Amendments affecting benefits coming into effect since 1 July 2006 are summarised below:

- Provisions to facilitate payment of member contributions through salary sacrifice.
- Provisions clarifying transfer rights of senior executive service members.
- The change in the definition of salary from superannuation salary to OTE for purposes of the Superannuation Guarantee legislation necessitated changes to the MRB defined in the Benefit Certificate.

## 1.4 PSS

### 1.4.1 Definitions

"Accumulation of contributions" means, in respect of a contributor, the amount of contributions made to the Fund by that contributor plus interest from 23 November 1984. A contributor reserve is maintained for each member.

"Normal Retirement Age" is 60 years.

"Salary" means the annual rate of salary last nominated as paid to a contributor at the relevant date.

"Taxable date" means the date on which the Trustee first became liable to pay income tax under the Commonwealth Law in respect of employers' contributions to the Fund, which was 1 July 1988.

### 1.4.2 Contributions

#### 1.4.2.1 *Employee Contributions*

Members contribute 6% of salary.

#### 1.4.2.2 *Employer Contributions*

The balance of the cost of benefits ie that part of the benefits and expenses not covered by the members' contributions, plus Contributions Tax is paid from the PSS employer reserve set up for this purpose.

### 1.4.3 Benefits

#### 1.4.3.1 *Retirement on or after attaining retirement age*

Subject to completion of at least twenty years of service, a pension commencing at

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension} \times \text{capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is  $\text{Salary} \times .02425 \times \text{YPS}$ , and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time, at the member's discretion.

Alternatively, a lump sum benefit of:

$$\text{Salary} \times \text{LSF} \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

LSF = as given in Schedule 3 of the Act, for various ages at retirement and entry  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Salary} \times \text{LSF} - \text{accumulation of contributions at exit})}{(\text{Salary} \times \text{LSF})}$$

The lump sum benefit equates to the pension benefit multiplied by 10.92

#### 1.4.3.2 *Early Retirement*

An early retirement pension is payable on retirement after having attained the age of 55 years. The amount of the pension at commencement is:

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - .04 \times (60 - A)) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years  
 A = age at the date of retirement (with complete months counting as fractions)  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension x capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension x capitalisation factor})}$$

where the unreduced pension is:

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - 0.04 \times (60 - A))$$

and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time

Alternatively, a lump sum benefit of

$$\text{Salary} \times \text{LSF} \times (1 - 0.15 \times B/C \times \text{ppn e'er})$$

where:

- LSF = as given in Schedule 3 of the Act, for various ages at retirement and entry.  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Salary} \times \text{LSF} - \text{accumulation of contributions at exit})}{(\text{Salary} \times \text{LSF})}$$

#### 1.4.3.3 Retirement owing to invalidity

##### **Not Hurt on Duty**

If service is less than 20 years, a lump sum of:

$$2 \times \text{Salary} - (2 \times \text{salary} - \text{accumulation of contributions at exit}) \times 0.15 \times B/C$$

where:

- A = age at the date of retirement (with complete months counting as fractions)  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 If 20 years or more service, a pension of:

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - 0.15 \times B/C \times \text{ppn e'er})$$

where:

YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension x capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension x capitalisation factor})}$$

where the unreduced pension is Salary x 2.425% x YPS, and the capitalisation factors are valuation factors for invalidity pensions at emergence depending on age and sex supplied for this purpose from time to time.

### Hurt on Duty

A pension of:

$$P(\text{HOD}) \times \text{Salary} \times (1 - 0.15 \times B/\text{TS} \times \text{ppn e'er})$$

Where:

P(HOD)= 72.75% minimum, increasing to 100% at STC's discretion. For valuation purposes, the maximum benefit is assumed. (Injury pre 21 November 1979 is 72.75% maximum.)  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 TS = the period in days of the contributory service for the contributor to normal retirement  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension x capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension x capitalisation factor})}$$

where the unreduced pension is P(HOD) x Salary, and the capitalisation factors are valuation factors for invalidity pensions at emergence depending on age and sex supplied for this purpose from time to time.

Special benefits may be paid for specific injuries in accordance with Division 3,4 and 5 of Part 3 of the Workers Compensation Act 1987.

#### 1.4.3.4 *Resignation, dismissal or discharge*

A lump sum equal to the employee's accumulation of contributions. In the case of dismissal interest is only payable from 1 July 1990.

Alternatively, at the option of the employee, a benefit may be deferred in the Fund until retirement or earlier death or disability.

#### 1.4.3.5 *Death*

Not Killed on Duty

A lump sum of:

$$\text{Salary} \times 12\% \times (\text{YPS} + \text{YPS55}) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years  
 YPS55 = service to age 55 (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years  
 0.15 = the tax rate on the employer contributions  
 B = the period in days of contributory service that began on the taxable date  
 C = the period in days of the contributory service for the contributor  
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced benefit} - \text{accumulation of contributions at exit})}{(\text{Unreduced benefit})}$$

where the unreduced benefit is:

$$\text{Salary} \times 12\% \times (\text{YPS} + \text{YPS55})$$

Killed on Duty

Pension to spouse of:

$$\text{P(KOD)} \times \text{Salary} \times (1 - 0.15 \times \text{B/TS} \times \text{ppn e'er})$$

Where:

- P(KOD) = 55% minimum, increasing to 62.5% at STC's discretion. For valuation purposes, the maximum benefit is assumed.
- 0.15 = the tax rate on the employer contributions
- B = the period in days of contributory service that began on the taxable date
- TS = the period in days of the contributory service for the contributor to normal retirement (60)
- ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension} \times \text{capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is  $P(\text{KOD}) \times \text{Salary}$ , and the capitalisation factors are valuation factors for spouse pensions at emergence depending on age and sex supplied for this purpose from time to time.

The equivalent of a spouse pension may also be paid to dependants of the deceased member. If those dependants are children, the pension is payable to age 25.

A lump sum benefit may also be payable in accordance with Division 1 of Part 3 of the Workers Compensation Act 1987.

In addition to the spouse pension, a pension may be paid for each eligible child (under age 18, or 21 if a student). The amount of pension payable is set out in Division 1 of Part 3 of the Workers Compensation Act 1987.

Alternative lump sum and no spouse benefit is the not-killed-on-duty amount.

Death of pensioner

On the death of a married pensioner, a pension is payable to the spouse (but only if married prior to the pensioner's retirement), equal to 62.5% of the pension that the deceased pensioner was receiving. No spouse pension is payable if the former member had commuted the pension.

#### 1.4.3.6 Pensions

Pensions in payment are adjusted each October in line with the Consumer Price Index (All Groups) Sydney with the proviso that a pension cannot fall below the level at emergence.

An invalidity pension may be exchanged for a lump sum, at age 60 years or later emergence. The commuted lump sum equals 10.92 times the annual pension.

The invalidity hurt on duty pension above 72.75% may be exchanged for a lump sum before aged 60 at STC's discretion. The commutation factor is as in Schedule 3 of the Act.

#### 1.4.3.7 *Deferred Benefits*

A contributor who becomes entitled to a benefit on resignation, dismissal or discharge or on early retirement may elect instead for a deferred benefit. The deferred benefit commences payment on:

- application on attainment of age 55;
- death;
- total and permanent invalidity before age 55;
- retirement from the workforce (or effective retirement after 65 or 70 defined as working less than 10 or 30 hours a week respectively);
- on application if the benefit was deferred after age 55.

The former member can at any time exchange the deferred benefit for the withdrawal benefit applicable at the date of preservation plus interest to payment date.

The deferred benefit is a lump sum indexed to CPI between preservation date and payment. The lump sum at preservation date is the greater of:

- (A) 2.5 x member's own contributions (with no interest), and
- (B)  $E \times YPS/YPS55 \times .97^{(55-A)} \times (1 - 0.15 \times B/C \times \text{ppn e'er})$

where

- E = early retirement lump sum which would have been payable had the former member continued in service until age 55 (obtained by reference to Schedule 3 of the Act, for various ages at entry).
- YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
- YPS55 = service to age 55 (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
- A = age at the date of preservation (with complete months counting as fractions)
- 0.15 = the tax rate on the employer contributions
- B = the period in days of contributory service that began on the taxable date
- C = the period in days of the contributory service for the contributor
- ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(E \times YPS/YPS55 \times .97^{(55-A)} - \text{accumulation of contributions at exit})}{(E \times YPS/YPS55 \times .97^{(55-A)})}$$

Where a member is over age 55 the deferred benefit is the lump sum early retirement benefit.

#### 1.4.3.8 Provisions for part time contributors

Proportionately reduced contributions and service accrual recognise part time employment.

#### 1.4.3.9 Superannuation Guarantee

The benefit on exit for any reason, together with the benefit payable for the State Authorities Non-Contributory Superannuation (SANCS) Fund is subject to a minimum benefit as specified in the current Benefit Certificate so that benefits paid by these schemes can be used to meet employers' obligations under the Superannuation Guarantee (Administration) Act. The shortfall, if any, is to be provided from the SANCS Fund.

The MRB (Minimum Requisite Benefit) specified in the Benefit Certificate adopted in the valuation in respect of PSS members is described below. This is the amount below which the combined total PSS and SANCS benefits payable may not fall. The MRB is that set out in the Benefit Certificate valid from 1 July 2008, extended in a consistent manner to cover future periods.

- MRB =
- a pre 1 July 1992 component; plus
  - FASEX x 1.0524 x DF x SGLM1; plus
  - FASOTE x 1.08 x DF x SGLM2; plus
  - 0.06 / 0.85 x post 1 July 1992 service x DF x FS

where: FASEX is the contributor's final average salary at exit

FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and ending on the date of determination.

DF is .7 when age at exit < 45

.7 + .015 x (65 - age at exit) when 45 < age at exit < 65

1 when age at exit >= 65

FS is final salary at exit

SGLM1 is the accrued Superannuation Guarantee Levy Multiple at 30 June 2008 where the multiple accrued as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	01/07/92 to 31/12/92
.05	01/01/93 to 30/06/95
.06	01/07/95 to 30/06/98
.07	01/07/98 to 30/06/00
.08	01/07/00 to 30/06/02
.09	after 01/07/02

SGLM2 is the accrued Superannuation Guarantee Levy Multiple for the period from 1 July 2008 to exit date, where the multiple accrued as above.

The pre 1 July 1992 component is the total of the cash benefit from SANCS which would have been paid had the contributor resigned or retired on 1 July 1992; plus 85% of the vested benefit as for the PSS at 1 July 1992; plus 15% of the member's contributions between 1 July 1983 and 30 June 1992; updated to exit date by the ratio of FS to fund salary at 1 July 1992.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

#### **1.4.4 Legislative Changes**

Amendments affecting benefits coming into effect since 1 July 2006 or in preparation by 2009 are summarised below:

- Provisions to facilitate payment of member contributions through salary sacrifice.
- Provisions clarifying transfer rights of senior executive service members.
- The change in the definition of salary from superannuation salary to OTE for purposes of the Superannuation Guarantee legislation necessitated changes to the MRB defined in the Benefit Certificate.

2

## 2. Actuarial Basis

We have set out below the assumptions used for each of the Schemes in the Pooled Fund.

Rates of mortality, total disablement, resignation and retirement were derived from the experience of each Scheme in the Pooled Fund. Where relevant we have also considered the experience of predecessor funds. These rates are shown in detail in this section for each Scheme.

### 2.1 Economic Assumptions

#### 2.1.1 Economic factors were assumed as follows:

Rate of investment return:	8.3% per annum for pensioners and 7.3% per annum for all other members, inclusive of capital appreciation and net of investment management charges and tax
Rate of salary escalation:	4% per annum plus additional rates of promotional increase varying by age and sex. The promotional rates were derived from the salary histories of each Scheme's membership.
Rate of CPI increase:	2.5% per annum.

The rate of salary increase above does not include promotional rates of increase, which have been dealt with separately under other assumptions for each Scheme.

## 2.2 Demographic & Other Assumptions – SASS

### 2.2.1 Expenses

It was assumed that the employee's share of expenses would amount to 1.0% of employee contributions. The employer share of expenses was assumed to be 1.0% of projected benefit payments in each year.

### 2.2.2 Tax

The assumed rate of tax is 15%.

All benefits have been valued gross of surcharge. Where there is a surcharge debt in respect of an individual, this is assumed recoverable from the benefit payment.

### 2.2.3 Contribution rates

It is assumed that contributors maintain their current contribution rate through to retirement, unless they reach maximum benefit points, when 20% of members are assumed to reduce their contribution rate to the minimum (1%) with the remaining 80% maintaining their current contribution rate to retirement.

### 2.2.4 Tables of assumptions for Contributors

The following tables show in full the assumed rates of mortality, total disablement, retirement, resignation and promotional salary increases. In addition for Part 1 redundancies at 1.5% per annum are assumed for all ages under 65.

**Males**

Age nearest Birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:						Additional promotional salary increase rate %	% married
	Death	Total & Permanent Disability	Retirement		Resignation			
			Part 1	Part 3	Part 1	Part 3		
30	4	7	0	0	280	355	2.9	80
31	4	7	0	0	270	351	2.8	80
32	4	7	0	0	255	346	2.7	81
33	4	7	0	0	240	337	2.6	81
34	4	7	0	0	225	328	2.5	81
35	4	7	0	0	210	319	2.4	82
36	4	7	0	0	195	307	2.3	82
37	4	8	0	0	180	290	2.2	82
38	5	8	0	0	165	274	2.1	82
39	5	8	0	0	155	264	2.0	83
40	5	9	0	0	150	253	1.8	83
41	5	9	0	0	145	243	1.6	83
42	5	10	0	0	140	229	1.4	84
43	6	10	0	0	135	216	1.2	84
44	6	12	0	0	130	202	1.0	84
45	6	11	0	0	125	189	0.8	85
46	7	11	0	0	120	180	0.6	85
47	7	11	0	0	118	171	0.4	85
48	8	13	0	0	116	162	0.2	85
49	8	15	0	0	114	157	0.0	86
50	9	18	0	0	112	152	0.0	86
51	10	19	0	0	110	147	0.0	86
52	11	23	0	0	108	142	0.0	87
53	12	26	0	0	106	139	0.0	87
54	13	29	0	0	104	136	0.0	87
55	14	33	0	0	102	135	0.0	88
56	16	36	0	0	100	134	0.0	88
57	18	39	350	250	98	133	0.0	88
58	20	0	1,150	800	0	0	0.0	88
59	22	0	1,200	700	0	0	0.0	89
60	24	0	1,750	1,400	0	0	0.0	89
61	27	0	1,650	900	0	0	0.0	89
62	30	0	1,650	900	0	0	0.0	90
63	34	0	1,750	1,300	0	0	0.0	90
64	37	0	2,250	2,000	0	0	0.0	90
65	0	0	4,000	3,400	0	0	0.0	91
66	0	0	3,150	3,600	0	0	0.0	91
67	0	0	2,500	2,500	0	0	0.0	91
68	0	0	3,200	3,000	0	0	0.0	91
69	0	0	5,000	6,000	0	0	0.0	91
70	0	0	10,000	10,000	0	0	0.0	91

**Females**

Age nearest Birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:						Additional promotional salary
	Death	Total & Permanent Disability	Retirement		Resignation		increase rate %
			Part 1	Part 3	Part 1	Part 3	
30	1	1	0	0	372	595	2.9
31	2	1	0	0	340	557	2.8
32	2	1	0	0	308	519	2.7
33	2	2	0	0	276	485	2.6
34	2	3	0	0	250	451	2.5
35	2	2	0	0	230	417	2.4
36	2	3	0	0	215	383	2.3
37	2	3	0	0	205	349	2.2
38	2	3	0	0	195	315	2.1
39	2	3	0	0	185	289	2.0
40	3	3	0	0	175	265	1.8
41	3	4	0	0	165	250	1.6
42	3	5	0	0	155	240	1.4
43	3	5	0	0	145	235	1.2
44	4	7	0	0	135	230	1.0
45	4	8	0	0	135	230	0.8
46	4	10	0	0	135	230	0.6
47	5	11	0	0	137	230	0.4
48	5	13	0	0	139	230	0.2
49	5	15	0	0	141	230	0.0
50	6	18	0	0	144	230	0.0
51	7	21	0	0	147	230	0.0
52	7	25	0	0	150	230	0.0
53	8	28	0	0	155	230	0.0
54	9	32	0	0	170	230	0.0
55	10	36	0	0	185	230	0.0
56	11	39	0	0	200	230	0.0
57	12	43	470	260	200	230	0.0
58	13	0	1,450	1,100	0	0	0.0
59	14	0	1,100	1,000	0	0	0.0
60	15	0	1,550	1,450	0	0	0.0
61	17	0	1,600	1,450	0	0	0.0
62	18	0	1,500	1,450	0	0	0.0
63	20	0	2,200	2,250	0	0	0.0
64	22	0	2,550	2,250	0	0	0.0
65	0	0	4,800	3,900	0	0	0.0
66	0	0	2,800	2,450	0	0	0.0
67	0	0	2,700	2,200	0	0	0.0
68	0	0	2,400	2,600	0	0	0.0
69	0	0	5,000	5,200	0	0	0.0
70	0	0	10,000	10,000	0	0	0.0

### 2.2.5 Proportions choosing Deferred Benefits

On resignation, dismissal or discharge, the proportion of contributors electing to take a deferred benefit in lieu of the cash benefit was assumed as follows:

Age at exit	Proportion of exits electing deferred benefit %	
	Males	Females
Under 50	60	70
50	65	70
51	70	75
52	75	80
53	80	85
54	85	90
55	90	95
56	95	100
57	100	100
58	100	100

### 2.2.6 Proportions choosing Pension Benefits

Former Local Government Pension Fund, NSW Retirement Fund and Government Railways Superannuation Scheme (RSA) may elect to receive pension benefits instead of a lump sum.

Based on past experience it was assumed that 20% of former LGPF, NRF and RSA members would elect pensions, with the remainder choosing a lump sum.

### 2.2.7 Rates of Partial Disablement

In addition to total disablements, a decrement for partial and permanent disablement has been assumed for contributors below the early retirement age (age 58). The decrement is a percentage of the total disablement rate, as follows:

All Parts	Males	Females
Ages up to 45	400%	300%
Ages 46 - 50	350%	250%
Ages 51 - 57	150%	115%

### 2.2.8 Valuation of Pensions

The following assumptions were made in the valuation of pensions in payment at the valuation date and pensions assumed to be elected in the future by contributors at the valuation date:

### 2.2.9 Mortality

Retired Male contributors:	The mortality is a percentage of the ALT2000-02(males) mortality, the percentage increasing with age from 50% at ages up to 74 to 100% at age 83.
Retired Female contributors:	The mortality is a percentage of the ALT2000-02(females) mortality, where the percentage is 100% for ages up to 47, falls to 45% at age 56 then increases with age to 100% at age 82.
Widow(er)s of former pensioners or contributors, and spouses of current pensioners:	The mortality is the same as for retired contributors of the same sex.
Male and Female invalidity pensioners:	The mortality is the same as for retired contributors of the same sex.

Note: ALT2000-02 mortality is adjusted from the base date by including improvements at the ALT 25 year average rates to 2015 and at 105 year average rates thereafter.

### 2.2.10 Age of Spouse (reversionary pensions)

When the spouse's date of birth was not provided in the data, the following assumptions were made:

Male pensioner:	5 years older than spouse
Female pensioner:	Same age as spouse

### 2.2.11 Proportion Married at Death

All Part 1 pensioners identified in the data as having a reversionary pension attached were assumed married at the date the pension commenced. Allowance was made on the bases described above for the mortality of spouses from the commencement date. All other Part 1 pensioners were assumed unmarried.

For Part 3 pensioners and pensioners under the former Government Railways Superannuation Scheme, the proportions of pensioners assumed married at the date the pension commenced were as shown in the relevant tables in 2.2.4 above. Allowance was made for the mortality of the spouse from the pension commencement date in the same way as for Part 1.

For pensions assumed to be elected in future by current contributors, the proportions married were assumed as shown in the relevant tables in 2.2.4 above.

### 2.2.12 Children's Pensions

Average numbers and ages of children were assumed at the same levels as the previous investigation of SASS in respect of future pensions becoming payable to children under former Local Government Pension Fund rules.

### 2.2.13 Reversionary Pensions (former Government Railways Superannuation (RSA) Scheme)

Data was not available for reversionary pensions to spouses of RSA pensioners. The proportions of pensioners married and the average age of spouses were assumed as described in 2.2.11 and 2.2.10 above. The amount of the reversionary pension was taken from Column 3 of Schedule 2 to the relevant Transitional Regulation increased for indexation, with the length of service of the former member estimated by reference to the amount of his/her pension as a proportion of the maximum (40 years) pension.

As at the valuation date, base reversionary pensions are thereby estimated to be between \$46.97 and \$58.30 per fortnight, depending upon the former member's length of service.

### 2.2.14 Table of Mortality Assumptions for Pensioners

Age	All Pensioners	
	Males	Females
55	0.0014	0.0013
56	0.0015	0.0013
57	0.0017	0.0014
58	0.0020	0.0016
59	0.0023	0.0018
60	0.0025	0.0021
61	0.0028	0.0025
62	0.0031	0.0029
63	0.0035	0.0032
64	0.0039	0.0036
65	0.0045	0.0040
66	0.0051	0.0044
67	0.0059	0.0047
68	0.0068	0.0051
69	0.0078	0.0055
70	0.0090	0.0059
71	0.0107	0.0062
72	0.0126	0.0068
73	0.0150	0.0076
74	0.0179	0.0087
75	0.0212	0.0103
76	0.0250	0.0124
77	0.0294	0.0152
78	0.0343	0.0187

Age	All Pensioners	
	Males	Females
79	0.0398	0.0228
80	0.0460	0.0276
81	0.0529	0.0332
82	0.0606	0.0394
83	0.0693	0.0464
84	0.0801	0.0544
85	0.0936	0.0638
86	0.1096	0.0747
87	0.1278	0.0870
88	0.1472	0.1008
89	0.1672	0.1161
90	0.1872	0.1328
91	0.2067	0.1505
92	0.2253	0.1693
93	0.2420	0.1890
94	0.2568	0.2098
95	0.2696	0.2315
96	0.2807	0.2544
97	0.2900	0.2783
98	0.2994	0.3021
99	0.3098	0.3265
100	0.3221	0.3512
101	0.3365	0.3764
102	0.3529	0.4007
103	0.3714	0.4232
104	0.3919	0.4439
105	0.4198	0.4662
106	0.4437	0.4815
107	0.4696	0.4948
108	0.4975	0.5061
109	0.5274	0.5154
110	1.0000	1.0000

For all pensioners mortality rates as above apply for the year 2009/2010. For subsequent years, rates are reduced to reflect future improvements in mortality as for SSS.

### 2.2.15 Distribution of New Entrants

The distribution of new entrants used is set out in the following table:

<b>Salary weighted proportion of new entrants entering scheme at a given age</b>				
	<b>Part 1 employers</b>		<b>Part 3 employers</b>	
<b>Age at entry</b>	<b>Males</b>	<b>Females</b>	<b>Males</b>	<b>Females</b>
17	0.07	0.05	0.02	0.05
22	0.18	0.09	0.09	0.14
27	0.19	0.10	0.16	0.17
32	0.15	0.11	0.20	0.16
37	0.14	0.16	0.18	0.14
42	0.11	0.20	0.12	0.13
47	0.07	0.15	0.08	0.10
52	0.06	0.09	0.07	0.07
57	0.03	0.05	0.05	0.04
62	-	-	0.03	-
Ratio of male new entrants to females	55:45		25:75	

## 2.3 Demographic & Other Assumptions – SANCS

### 2.3.1 Expenses

It was assumed that expenses would amount to 1.0% of benefit payments.

### 2.3.2 Tax

The assumed rate of tax is 15%.

### 2.3.3 Tables of assumptions for Contributors

The following tables show in full the assumed rates of mortality, total disablement, resignation, retirement and promotional salary.

**Males**

Age nearest Birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:						Additional promotional salary increase rate %
	Death	Disability	Retirement		Resignation		
			Part 1	Part 3	Part 1	Part 3	
30	4	37	0	0	280	355	2.9
31	4	39	0	0	270	351	2.8
32	4	39	0	0	255	346	2.7
33	4	39	0	0	240	337	2.6
34	4	39	0	0	225	328	2.5
35	4	39	0	0	210	319	2.4
36	4	39	0	0	195	307	2.3
37	4	43	0	0	180	290	2.2
38	5	43	0	0	165	274	2.1
39	5	43	0	0	155	264	2.0
40	5	48	0	0	150	253	1.8
41	5	49	0	0	145	243	1.6
42	5	54	0	0	140	229	1.4
43	6	56	0	0	135	216	1.2
44	6	65	0	0	130	202	1.0
45	6	65	0	0	125	189	0.8
46	7	62	0	0	120	180	0.6
47	7	63	0	0	118	171	0.4
48	8	74	0	0	116	162	0.2
49	8	86	0	0	114	157	0.0
50	9	102	0	0	112	152	0.0
51	10	82	0	0	110	147	0.0
52	11	90	0	0	108	142	0.0
53	12	103	0	0	106	139	0.0
54	13	115	0	0	104	136	0.0
55	14	130	290	0	102	135	0.0
56	16	142	220	0	100	134	0.0
57	18	154	410	250	98	133	0.0
58	20	0	820	800	0	0	0.0
59	22	0	2,000	700	0	0	0.0
60	24	0	4,800	1,400	0	0	0.0
61	27	0	2,650	900	0	0	0.0
62	30	0	2,000	900	0	0	0.0
63	34	0	1,950	1,300	0	0	0.0
64	37	0	2,700	2,000	0	0	0.0
65	0	0	4,300	3,400	0	0	0.0
66	0	0	3,150	3,600	0	0	0.0
67	0	0	2,500	2,500	0	0	0.0
68	0	0	3,200	3,000	0	0	0.0
69	0	0	5,000	6,000	0	0	0.0
70	0	0	10,000	10,000	0	0	0.0

**Females**

Age nearest Birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:						Additional promotional salary
	Death	Disability	Retirement		Resignation		increase rate %
			Part 1	Part 3	Part 1	Part 3	
30	1	4	0	0	372	595	2.9
31	2	5	0	0	340	557	2.8
32	2	5	0	0	308	519	2.7
33	2	9	0	0	276	485	2.6
34	2	12	0	0	250	451	2.5
35	2	10	0	0	230	417	2.4
36	2	13	0	0	215	383	2.3
37	2	13	0	0	205	349	2.2
38	2	13	0	0	195	315	2.1
39	2	14	0	0	185	289	2.0
40	3	14	0	0	175	265	1.8
41	3	17	0	0	165	250	1.6
42	3	21	0	0	155	240	1.4
43	3	23	0	0	145	235	1.2
44	4	30	0	0	135	230	1.0
45	4	34	0	0	135	230	0.8
46	4	40	0	0	135	230	0.6
47	5	44	0	0	137	230	0.4
48	5	52	0	0	139	230	0.2
49	5	60	0	0	141	230	0.0
50	6	71	0	0	144	230	0.0
51	7	61	0	0	147	230	0.0
52	7	68	0	0	150	230	0.0
53	8	76	0	0	155	230	0.0
54	9	87	0	0	170	230	0.0
55	10	97	1,100	0	185	230	0.0
56	11	106	420	0	200	230	0.0
57	12	116	550	260	200	230	0.0
58	13	126	1,300	1,100	0	0	0.0
59	14	136	1,340	1,000	0	0	0.0
60	15	0	2,250	1,450	0	0	0.0
61	17	0	1,750	1,450	0	0	0.0
62	18	0	1,590	1,450	0	0	0.0
63	20	0	2,120	2,250	0	0	0.0
64	22	0	2,600	2,250	0	0	0.0
65	0	0	3,500	2,900	0	0	0.0
66	0	0	2,800	2,450	0	0	0.0
67	0	0	2,700	2,200	0	0	0.0
68	0	0	2,400	2,600	0	0	0.0
69	0	0	5,000	5,200	0	0	0.0
70	0	0	10,000	10,000	0	0	0.0

### 2.3.4 Distribution of New Entrants

The distribution of new entrants used is set out in the following table:

<b>Salary weighted proportion of new entrants entering scheme at a given age</b>				
	<b>Part 1 employers</b>		<b>Part 3 employers</b>	
<b>Age at entry</b>	<b>Males</b>	<b>Females</b>	<b>Males</b>	<b>Females</b>
17	0.12	0.06	0.03	0.03
22	0.21	0.22	0.18	0.24
27	0.17	0.15	0.24	0.24
32	0.15	0.15	0.23	0.18
37	0.14	0.15	0.14	0.13
42	0.10	0.14	0.08	0.09
47	0.05	0.08	0.04	0.05
52	0.03	0.03	0.03	0.03
57	0.02	0.02	0.02	0.01
62	0.01	-	0.01	-
Ratio of male new entrants to females	55:45		25:75	

## 2.4 Demographic & Other Assumptions – SSS

### 2.4.1 Expenses

The assumed level of expenses for SSS is 1% of total benefits plus 1% of member contributions.

### 2.4.2 Tax

The assumed rate of tax is 15%.

All benefits have been valued gross of surcharge. Where there is a surcharge debt in respect of an individual, this is assumed recoverable from the benefit payment.

### 2.4.3 Tables of assumptions for Contributors

The following tables show in full the assumed rates of mortality, total disablement, retirement and promotional salary increases, as well as assumed rates of preservation and resignation taking a cash benefit at all ages.

**Males**

Age nearest birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:					Additional promotional salary increase rate %
	Death	III-health Retirement	Retirement	Cash Resignation	Preservation	
30	4	42	-	107	67	2.9
31	4	46	-	98	70	2.8
32	4	46	-	86	74	2.7
33	4	46	-	72	77	2.6
34	4	46	-	60	81	2.5
35	4	46	-	66	84	2.4
36	4	46	-	60	88	2.3
37	4	50	-	57	91	2.2
38	5	50	-	54	95	2.1
39	5	50	-	51	98	2.0
40	5	54	-	48	98	1.8
41	5	58	-	43	91	1.6
42	5	63	-	39	77	1.4
43	6	67	-	35	63	1.2
44	6	75	-	31	56	1.0
45	6	84	-	29	53	0.8
46	7	86	-	25	49	0.6
47	7	91	-	21	46	0.4
48	8	105	-	15	42	0.2
49	8	123	-	12	39	0.0
50	9	144	-	12	35	0.0
51	10	151	-	12	32	0.0
52	11	156	-	12	28	0.0
53	12	179	-	12	25	0.0
54	13	201	-	12	21	0.0
55	14	224	550	0	0	0.0
56	16	246	300	0	0	0.0
57	18	268	450	0	0	0.0
58	20	291	650	0	0	0.0
59	22	313	2,500	0	0	0.0
60	24	0	7,000	0	0	0.0
61	27	0	4,500	0	0	0.0
62	30	0	3,100	0	0	0.0
63	34	0	2,500	0	0	0.0
64	37	0	4,200	0	0	0.0
65	0	0	10,000	0	0	0.0

**Females**

Age nearest birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:								Additional promotion I salary increase rate %
	Death	Ill-health Retirement	Retirement		Cash Resignation		Preservation		
			R55	R60	R55	R60	R55	R60	
30	1	6	-	-	297	112	138	124	2.9
31	2	9	-	-	269	112	136	126	2.8
32	2	9	-	-	242	106	133	130	2.7
33	2	12	-	-	216	106	130	134	2.6
34	2	15	-	-	191	92	125	135	2.5
35	2	18	-	-	168	83	119	130	2.4
36	2	18	-	-	146	76	112	125	2.3
37	2	18	-	-	125	69	104	120	2.2
38	2	18	-	-	105	59	95	115	2.1
39	2	21	-	-	86	50	85	110	2.0
40	3	21	-	-	74	40	75	105	1.8
41	3	24	-	-	62	33	60	100	1.6
42	3	27	-	-	49	26	60	90	1.4
43	3	33	-	-	42	23	60	80	1.2
44	4	39	-	-	38	20	60	75	1.0
45	4	45	-	-	35	17	60	70	0.8
46	4	58	-	-	29	17	60	65	0.6
47	5	65	-	-	26	17	60	60	0.4
48	5	75	-	-	23	17	50	55	0.2
49	5	88	-	-	20	17	55	50	0.0
50	6	103	-	-	13	17	50	50	0.0
51	7	108	-	-	9	17	45	50	0.0
52	7	112	-	-	4	17	40	50	0.0
53	8	128	-	-	3	17	40	50	0.0
54	9	144	-	-	1	17	40	50	0.0
55	10	160	6,100	550	0	0	0	0	0.0
56	11	176	4,300	250	0	0	0	0	0.0
57	12	192	2,550	500	0	0	0	0	0.0
58	13	208	1,750	550	0	0	0	0	0.0
59	14	224	2,300	2,300	0	0	0	0	0.0
60	15	0	2,700	5,800	0	0	0	0	0.0
61	17	0	2,400	3,600	0	0	0	0	0.0
62	18	0	1,350	2,800	0	0	0	0	0.0
63	20	0	800	1,550	0	0	0	0	0.0
64	22	0	1,600	3,250	0	0	0	0	0.0
65	0	0	10,000	10,000	0	0	0	0	0.0

**Male contributor factors**

Age	Proportion Married	Proportion of optional units taken up	
		Post 1963 membership	Pre 1963 membership
30	0.62	1.00	1.00
31	0.66	1.00	1.00
32	0.70	1.00	1.00
33	0.73	1.00	1.00
34	0.76	1.00	1.00
35	0.78	1.00	1.00
36	0.80	1.00	1.00
37	0.82	1.00	1.00
38	0.84	1.00	1.00
39	0.86	1.00	1.00
40	0.87	1.00	1.00
41	0.88	1.00	1.00
42	0.89	1.00	1.00
43	0.90	1.00	1.00
44	0.90	1.00	1.00
45	0.90	1.00	1.00
46	0.90	.99	.90
47	0.90	.99	.90
48	0.90	.98	.90
49	0.90	.97	.90
50	0.88	.96	.90
51	0.88	.95	.90
52	0.88	.94	.90
53	0.88	.93	.90
54	0.86	.92	.90
55	0.86	.90	.90
56	0.86	.88	.90
57	0.85	.86	.86
58	0.84	.84	.83
59	0.83	.82	.80
60	0.81	.80	.80
61	0.78	.75	.80
62	0.77	.70	.80
63	0.75	.60	.80
64	0.72	.50	.80
65	0.70	.40	.80

**Female contributor factors**

Age	Proportion Married	Proportion of optional units taken up			
		R55		R60	
		Post 1963 membership	Pre 1963 membership	Post 1963 membership	Pre 1963 membership
30	0.60	1.00	1.00	1.00	1.00
31	0.62	1.00	1.00	1.00	1.00
32	0.64	1.00	1.00	1.00	1.00
33	0.66	1.00	1.00	1.00	1.00
34	0.68	1.00	1.00	1.00	1.00
35	0.69	1.00	1.00	1.00	1.00
36	0.70	1.00	1.00	1.00	1.00
37	0.71	1.00	1.00	1.00	1.00
38	0.72	1.00	1.00	1.00	1.00
39	0.73	1.00	1.00	1.00	1.00
40	0.74	1.00	.70	1.00	1.00
41	0.74	1.00	.70	1.00	1.00
42	0.74	1.00	.70	1.00	1.00
43	0.74	.98	.70	1.00	1.00
44	0.74	.96	.70	1.00	1.00
45	0.74	.94	.70	1.00	1.00
46	0.74	.92	.70	1.00	1.00
47	0.74	.90	.70	.99	.90
48	0.74	.90	.70	.99	.90
49	0.74	.90	.70	.99	.90
50	0.74	.90	.70	.99	.90
51	0.73	.80	.70	.97	.90
52	0.72	.80	.70	.95	.90
53	0.70	.80	.70	.93	.90
54	0.68	.80	.70	.91	.90
55	0.66	.80	.70	.89	.90
56	0.64	.70	.70	.85	.90
57	0.62	.60	.70	.80	.90
58	0.60	.50	.70	.75	.90
59	0.60	.40	.70	.65	.90
60	0.60	.40	.70	.55	.90
61	0.60	.40	.70	.50	.90
62	0.60	.40	.70	.50	.90
63	0.60	.40	.70	.50	.90
64	0.60	.40	.70	.50	.90
65	0.62	.40	.70	.50	.90

**2.4.4 Valuation of Pensions**

The following assumptions were made in the valuation of pensions in payment at the valuation date and pensions assumed to be elected in the future by contributors at the valuation date:

### Commutation of Pension Benefits

The proportion of retirement pensions assumed to be commuted at commencement is 10%.

The proportion of breakdown pensions assumed to be commuted on attainment of age 55 or later commencement is 15%.

Proportions of spouse/reversionary pension commuted on attainment of age 55 or later commencement:

Age	Widow	Widower
55	0.2000	0.2000
56	0.3890	0.5584
57	0.4020	0.5680
58	0.4150	0.5728
59	0.4280	0.5776
60	0.5700	0.5824
61	0.5657	0.5872
62	0.5614	0.5878
63	0.5571	0.5884
64	0.5424	0.5842
65	0.5380	0.5800
66	0.5336	0.5758
67	0.5292	0.5716
68	0.5248	0.5674
69	0.5150	0.5632
70	0.5105	0.5590
71	0.5061	0.5548
72	0.5016	0.5453
73	0.4972	0.5356
74	0.4870	0.5259
75	0.4825	0.5160
76	0.4780	0.5061
77	0.4735	0.4960
78	0.4690	0.4859
79	0.4586	0.4756
80	0.4540	0.4653
81	0.4495	0.4548
82	0.4449	0.4395
83	0.4358	0.4240
84	0.4112	0.3986
85	0.3928	0.3728
86	0.3200	0.3367
87	0.3000	0.3000
88	0.2700	0.2700
89	0.2500	0.2500
90	0.2300	0.2300

### 2.4.5 Age of Spouse (reversionary pensions)

When the spouse's date of birth was not provided in the data, the following assumptions were made:

Male pensioner: 3 years older than spouse  
 Female pensioner: 2 years younger than spouse

### 2.4.6 Children's Pensions

No allowance has been made for new children's pensions.

### 2.4.7 Deferred Pensions

Deferred pensions including CPI increases on the P2 component, are assumed to commence at age 60, when they are valued as normal male retirement pensioners. No exits are assumed in the deferral period.

### 2.4.8 Assumptions for Pensioners

#### Pensioner Mortality Rates

Age	Retirement & Spouse Pensioners		Invalidity Pensioners	
	Males	Females	Males	Females
25	0.0004	0.0004	0.0020	0.0027
26	0.0004	0.0004	0.0020	0.0027
27	0.0004	0.0004	0.0020	0.0027
28	0.0004	0.0004	0.0020	0.0027
29	0.0004	0.0004	0.0020	0.0027
30	0.0004	0.0004	0.0020	0.0027
31	0.0004	0.0004	0.0020	0.0027
32	0.0004	0.0005	0.0020	0.0034
33	0.0004	0.0005	0.0020	0.0033
34	0.0004	0.0005	0.0019	0.0033
35	0.0004	0.0006	0.0019	0.0040
36	0.0004	0.0006	0.0019	0.0040
37	0.0005	0.0006	0.0024	0.0040
38	0.0005	0.0007	0.0024	0.0042
39	0.0005	0.0007	0.0024	0.0045
40	0.0005	0.0007	0.0024	0.0048
41	0.0005	0.0008	0.0023	0.0050
42	0.0006	0.0008	0.0028	0.0050
43	0.0006	0.0009	0.0028	0.0050
44	0.0006	0.0010	0.0028	0.0051
45	0.0006	0.0011	0.0032	0.0055
46	0.0006	0.0012	0.0032	0.0060
47	0.0007	0.0013	0.0036	0.0064
48	0.0007	0.0013	0.0036	0.0064
49	0.0008	0.0013	0.0041	0.0064
50	0.0009	0.0013	0.0045	0.0064
51	0.0009	0.0013	0.0045	0.0064

Age	Retirement & Spouse Pensioners		Invalidity Pensioners	
	Males	Females	Males	Females
52	0.0010	0.0013	0.0049	0.0064
53	0.0011	0.0013	0.0054	0.0065
54	0.0012	0.0013	0.0058	0.0065
55	0.0014	0.0013	0.0063	0.0065
56	0.0015	0.0013	0.0068	0.0069
57	0.0017	0.0014	0.0072	0.0074
58	0.0020	0.0016	0.0074	0.0076
59	0.0023	0.0018	0.0076	0.0078
60	0.0025	0.0021	0.0077	0.0079
61	0.0028	0.0025	0.0078	0.0080
62	0.0031	0.0029	0.0079	0.0081
63	0.0035	0.0032	0.0080	0.0083
64	0.0038	0.0036	0.0084	0.0088
65	0.0044	0.0040	0.0091	0.0093
66	0.0049	0.0044	0.0099	0.0107
67	0.0056	0.0047	0.0117	0.0122
68	0.0064	0.0051	0.0141	0.0133
69	0.0073	0.0055	0.0167	0.0137
70	0.0084	0.0059	0.0199	0.0147
71	0.0098	0.0062	0.0236	0.0158
72	0.0115	0.0068	0.0281	0.0170
73	0.0135	0.0076	0.0333	0.0181
74	0.0159	0.0087	0.0389	0.0200
75	0.0188	0.0103	0.0446	0.0226
76	0.0220	0.0124	0.0503	0.0264
77	0.0256	0.0152	0.0560	0.0315
78	0.0296	0.0187	0.0617	0.0375
79	0.0340	0.0228	0.0675	0.0444
80	0.0390	0.0276	0.0733	0.0514
81	0.0444	0.0332	0.0791	0.0583
82	0.0505	0.0394	0.0849	0.0654
83	0.0573	0.0464	0.0913	0.0725
84	0.0657	0.0544	0.0986	0.0796
85	0.0761	0.0638	0.1089	0.0867
86	0.0884	0.0747	0.1226	0.0938
87	0.1022	0.0870	0.1395	0.1009
88	0.1173	0.1008	0.1598	0.1081
89	0.1334	0.1161	0.1829	0.1161
90	0.1502	0.1328	0.2090	0.1328
91	0.1675	0.1505	0.2365	0.1505
92	0.1851	0.1693	0.2655	0.1693
93	0.2029	0.1890	0.2946	0.1890
94	0.2207	0.2098	0.3238	0.2098
95	0.2386	0.2315	0.3531	0.2315
96	0.2571	0.2544	0.3829	0.2544
97	0.2759	0.2783	0.4131	0.2783

Age	Retirement & Spouse Pensioners		Invalidity Pensioners	
	Males	Females	Males	Females
98	0.2952	0.3021	0.4436	0.3021
99	0.3154	0.3265	0.4746	0.3265
100	0.3365	0.3512	0.5060	0.3512
101	0.3584	0.3764	0.5380	0.3764
102	0.3812	0.4007	0.5714	0.4007
103	0.4050	0.4232	0.6063	0.4232
104	0.4296	0.4439	0.6428	0.4439
105	0.4610	0.4662	0.6899	0.4662
106	0.4866	0.4815	0.7287	0.4815
107	0.5130	0.4948	0.7691	0.4948
108	0.5402	0.5061	0.8111	0.5061
109	0.5696	0.5154	0.8547	0.5154
110	1.0000	1.0000	1.0000	1.0000

For invalidity pensioners select mortality is assumed for the first year after breakdown. A rate of 0.05 is assumed for ages up to 39 with 0.025 for ages after that, for both males and females.

Retirement and spouse pensioner mortality rates above are those assumed to apply for the year 2009/10. Mortality rates for subsequent years are reduced according to assumed rates of future improvement.

### Pensioner Mortality Improvement Rates

For normal and spouse pensioners future improvements in mortality rates per annum are assumed as follows:

Age	Mortality Improvement rates-			
	(for years 2009-2014)		(for years post 2015)	
	Males	Females	Males	Females
25	0.00814	0.01195	0.01594	0.02490
26	0.00580	0.01192	0.01605	0.02525
27	0.00418	0.01203	0.01624	0.02536
28	0.00322	0.01227	0.01638	0.02536
29	0.00289	0.01264	0.01650	0.02527
30	0.00313	0.01313	0.01670	0.02519
31	0.00391	0.01374	0.01693	0.02511
32	0.00518	0.01447	0.01708	0.02500
33	0.00689	0.01532	0.01726	0.02479
34	0.00870	0.01629	0.01742	0.02454
35	0.01058	0.01736	0.01751	0.02420
36	0.01251	0.01854	0.01754	0.02374
37	0.01447	0.01982	0.01750	0.02331
38	0.01644	0.02121	0.01741	0.02280
39	0.01840	0.02270	0.01726	0.02211
40	0.02033	0.02412	0.01705	0.02124
41	0.02222	0.02530	0.01680	0.02036
42	0.02405	0.02625	0.01655	0.01966
43	0.02580	0.02699	0.01637	0.01914
44	0.02745	0.02754	0.01618	0.01880
45	0.02899	0.02791	0.01599	0.01846
46	0.03039	0.02812	0.01581	0.01806
47	0.03163	0.02820	0.01559	0.01762
48	0.03271	0.02815	0.01535	0.01721
49	0.03359	0.02800	0.01512	0.01679
50	0.03427	0.02776	0.01490	0.01638
51	0.03472	0.02746	0.01466	0.01599
52	0.03492	0.02710	0.01440	0.01559
53	0.03486	0.02671	0.01411	0.01528
54	0.03452	0.02631	0.01382	0.01503
55	0.03433	0.02590	0.01357	0.01480
56	0.03406	0.02552	0.01329	0.01459
57	0.03376	0.02517	0.01299	0.01439
58	0.03342	0.02488	0.01268	0.01423
59	0.03306	0.02466	0.01235	0.01411
60	0.03267	0.02456	0.01204	0.01403
61	0.03225	0.02457	0.01176	0.01392
62	0.03180	0.02465	0.01151	0.01381
63	0.03133	0.02480	0.01129	0.01370
64	0.03084	0.02496	0.01109	0.01355
65	0.03033	0.02511	0.01091	0.01335
66	0.02979	0.02518	0.01070	0.01313
67	0.02924	0.02513	0.01039	0.01287
68	0.02866	0.02487	0.01001	0.01259

Age	Mortality Improvement rates-			
	(for years 2009-2014)		(for years post 2015)	
	Males	Females	Males	Females
69	0.02807	0.02455	0.00955	0.01232
70	0.02745	0.02401	0.00903	0.01205
71	0.02683	0.02346	0.00854	0.01180
72	0.02618	0.02309	0.00827	0.01159
73	0.02553	0.02307	0.00815	0.01142
74	0.02486	0.02300	0.00802	0.01138
75	0.02417	0.02294	0.00789	0.01148
76	0.02348	0.02286	0.00777	0.01160
77	0.02278	0.02273	0.00767	0.01157
78	0.02207	0.02253	0.00752	0.01132
79	0.02135	0.02222	0.00738	0.01095
80	0.02062	0.02138	0.00732	0.01051
81	0.01989	0.02070	0.00721	0.00999
82	0.01915	0.01980	0.00699	0.00945
83	0.01842	0.01880	0.00665	0.00895
84	0.01767	0.01795	0.00627	0.00846
85	0.01664	0.01719	0.00589	0.00798
86	0.01565	0.01651	0.00552	0.00755
87	0.01508	0.01589	0.00519	0.00715
88	0.01463	0.01534	0.00492	0.00678
89	0.01427	0.01483	0.00472	0.00645
90	0.01397	0.01435	0.00459	0.00613
91	0.01369	0.01390	0.00456	0.00583
92	0.01342	0.01347	0.00459	0.00558
93	0.01312	0.01304	0.00465	0.00542
94	0.01277	0.01260	0.00471	0.00536
95	0.01233	0.01215	0.00480	0.00540
96	0.01156	0.01167	0.00494	0.00552
97	0.01075	0.01116	0.00512	0.00571
98	0.00994	0.01075	0.00533	0.00596
99	0.00913	0.00993	0.00572	0.00638
100	0.00832	0.00887	0.00642	0.00706
101	0.00751	0.00749	0.00577	0.00635
102	0.00670	0.00624	0.00513	0.00565
103	0.00589	0.00500	0.00449	0.00494
104	0.00508	0.00376	0.00385	0.00423

**Pensioner Proportions with Eligible Spouse Surviving at Death**

Age	Males		Females	
	Normal	Breakdown	Normal	Breakdown
26	0.40	0.23	0.52	0.52
27	0.46	0.25	0.54	0.54
28	0.52	0.29	0.56	0.56
29	0.57	0.31	0.58	0.58
30	0.62	0.34	0.60	0.58
31	0.66	0.37	0.62	0.59
32	0.70	0.40	0.64	0.60
33	0.73	0.43	0.66	0.61
34	0.76	0.46	0.68	0.62
35	0.78	0.48	0.69	0.63
36	0.80	0.52	0.70	0.64
37	0.82	0.54	0.71	0.65
38	0.84	0.56	0.72	0.66
39	0.86	0.59	0.73	0.67
40	0.87	0.61	0.74	0.68
41	0.88	0.64	0.74	0.68
42	0.89	0.66	0.74	0.68
43	0.90	0.68	0.74	0.68
44	0.90	0.72	0.74	0.68
45	0.90	0.76	0.74	0.68
46	0.90	0.79	0.74	0.65
47	0.90	0.84	0.74	0.55
48	0.90	0.84	0.74	0.45
49	0.90	0.78	0.74	0.35
50	0.88	0.66	0.74	0.25
51	0.88	0.54	0.73	0.25
52	0.88	0.54	0.72	0.25
53	0.86	0.42	0.70	0.25
54	0.86	0.42	0.68	0.25
55	0.86	0.42	0.66	0.25
56	0.86	0.48	0.64	0.20
57	0.85	0.48	0.62	0.20
58	0.84	0.50	0.60	0.20
59	0.83	0.50	0.60	0.20
60	0.81	0.54	0.60	0.20
61	0.78	0.54	0.60	0.20
62	0.77	0.54	0.60	0.20
63	0.75	0.54	0.60	0.20
64	0.72	0.54	0.60	0.20
65	0.70	0.54	0.55	0.20
66	0.68	0.54	0.50	0.30
67	0.67	0.54	0.45	0.30
68	0.64	0.54	0.40	0.30
69	0.62	0.54	0.36	0.30
70	0.62	0.54	0.33	0.23
71	0.61	0.54	0.30	0.23
72	0.60	0.48	0.27	0.23
73	0.59	0.48	0.24	0.23

Age	Males		Females	
	Normal	Breakdown	Normal	Breakdown
74	0.59	0.48	0.21	0.23
75	0.58	0.48	0.18	0.23
76	0.58	0.48	0.17	0.15
77	0.56	0.42	0.16	0.15
78	0.56	0.42	0.15	0.15
79	0.55	0.42	0.15	0.15
80	0.54	0.42	0.15	0.15
81	0.53	0.42	0.11	0.08
82	0.51	0.42	0.11	0.08
83	0.48	0.42	0.11	0.02
84	0.47	0.42	0.11	0.02
85	0.44	0.36	0.10	0.02
86	0.40	0.36	0.10	0.02
87	0.38	0.36	0.10	0.02
88	0.36	0.36	0.09	0.02
89	0.33	0.33	0.09	0.02
90	0.35	0.33	0.09	0.00
91	0.31	0.26	0.08	0.00
92	0.26	0.26	0.06	0.00
93	0.21	0.26	0.05	0.00
94	0.16	0.20	0.04	0.00
95	0.10	0.20	0.02	0.00
96	0.09	0.20	0.00	0.00
97	0.08	0.13	0.00	0.00
98	0.07	0.13	0.00	0.00
99	0.05	0.10	0.00	0.00
100	0.04	0.08	0.00	0.00
101	0.03	0.07	0.00	0.00
102	0.01	0.05	0.00	0.00
103	0.00	0.04	0.00	0.00
104	0.00	0.03	0.00	0.00
105	0.00	0.01	0.00	0.00
106	0.00	0.01	0.00	0.00
107	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00
109	0.00	0.00	0.00	0.00

## 2.5 Demographic & Other Assumptions – PSS

### 2.5.1 Expenses

Expenses are assumed to amount to 1% of benefit payments plus 1% of member contributions.

### 2.5.2 Tax

Benefits are reduced to offset tax on employer contributions. The assumed rate of tax is 15%.

All benefits have been valued gross of surcharge. Where there is a surcharge debt in respect of an individual, this is assumed recoverable from the benefit payment.

### 2.5.3 Tables of assumptions for Contributors

The following tables show in full the assumed rates of mortality, disablement, retirement and promotional salary increases, as well as assumed rates of resignation taking a cash benefit or electing to preserve the benefit.

**Male Contributors**

Age nearest birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:						
	Death		Disability Retirement		Preservation	Resignation with cash Benefit	Age Retirement
	Not killed On duty	Killed on duty	Not hurt on duty	Hurt on duty			
30	4	4	22	371	4	56	0
31	4	4	24	406	4	53	0
32	4	4	24	406	5	46	0
33	4	4	24	406	5	45	0
34	4	4	24	463	5	45	0
35	4	4	24	463	5	45	0
36	4	4	24	463	6	45	0
37	4	4	26	504	6	45	0
38	5	4	26	504	6	45	0
39	5	4	26	504	6	45	0
40	5	2	28	545	6	35	0
41	5	2	35	585	5	25	0
42	5	2	43	636	5	15	0
43	6	2	50	675	5	5	0
44	6	2	62	756	5	5	0
45	6	2	76	847	5	5	0
46	7	2	77	867	5	10	0
47	7	2	82	917	5	11	0
48	8	2	95	993	4	16	0
49	8	2	111	1,085	4	16	0
50	9	2	151	1,179	4	21	0
51	10	1	159	1,218	4	27	0
52	11	1	176	1,239	3	29	0
53	12	1	201	1,399	3	32	0
54	13	1	241	1,519	3	32	0
55	14	1	286	1,581	0	0	570
56	16	1	332	1,611	0	0	700
57	18	1	382	1,621	0	0	1,000
58	20	1	437	1,621	0	0	820
59	22	1	493	1,621	0	0	1,850
60	0	0	0	0	0	0	10,000

**Female Contributors**

Age nearest birthday	Number of members expected in any one year, out of 10,000 members at the age shown, to leave the fund as a result of:						
	Death		Disability Retirement		Preserv	Resignation	Age
	Not Killed on duty	Killed on duty	Not hurt on duty	Hurt on duty	-ations	with cash Benefit	Retirement
30	1	4	22	371	4	41	0
31	2	4	24	406	4	41	0
32	2	4	24	406	5	41	0
33	2	4	24	406	5	40	0
34	2	4	24	463	5	35	0
35	2	4	24	463	5	35	0
36	2	4	24	463	6	33	0
37	2	4	26	504	6	30	0
38	2	4	26	504	6	28	0
39	2	4	26	504	6	25	0
40	3	2	28	545	6	23	0
41	3	2	35	585	5	20	0
42	3	2	43	636	5	18	0
43	3	2	50	675	5	15	0
44	4	2	62	756	5	15	0
45	4	2	76	847	5	13	0
46	4	2	77	867	5	10	0
47	5	2	82	917	5	11	0
48	5	2	95	993	4	11	0
49	5	2	111	1,085	4	11	0
50	6	2	151	1,179	4	11	0
51	7	1	159	1,218	4	12	0
52	7	1	176	1,239	3	12	0
53	8	1	201	1,399	3	12	0
54	9	1	241	1,519	3	12	0
55	10	1	286	1,581	0	0	570
56	11	1	332	1,611	0	0	700
57	12	1	382	1,621	0	0	1,000
58	13	1	437	1,621	0	0	820
59	14	1	493	1,621	0	0	1,850
60	0	0	0	0	0	0	10,000

### 2.5.4 Contributor Proportions Married and Promotional Salary Scale

Age nearest birthday	Proportions Married		Additional promotional salary increase rate %
	Males	Females	
30	0.57	0.58	1.11
31	0.62	0.60	1.11
32	0.66	0.62	1.11
33	0.70	0.64	1.11
34	0.73	0.66	1.11
35	0.76	0.68	1.11
36	0.78	0.69	0.97
37	0.80	0.70	0.97
38	0.82	0.71	0.97
39	0.84	0.72	0.97
40	0.86	0.73	0.97
41	0.87	0.74	0.97
42	0.88	0.75	1.04
43	0.89	0.76	1.04
44	0.90	0.77	1.50
45	0.90	0.77	1.50
46	0.90	0.77	1.50
47	0.90	0.77	1.87
48	0.90	0.77	2.32
49	0.90	0.76	2.32
50	0.90	0.75	2.32
51	0.89	0.74	2.33
52	0.88	0.73	1.72
53	0.87	0.72	1.72
54	0.86	0.70	1.72
55	0.85	0.68	1.72
56	0.84	0.66	1.72
57	0.84	0.64	0.78
58	0.83	0.62	0.78
59	0.83	0.60	0.78
60	0.82	0.58	-

### 2.5.5 Valuation of Pensions

The following assumptions were made in the valuation of pensions in payment at the valuation date and pensions assumed to be elected in the future by contributors at the valuation date:

#### Mortality

Retired contributors, Widows/widowers of former pensioners or contributors, and wives/husbands of current pensioners

The same rates as assumed for male SASS retirement pensioners and for female SSS pensioners.

Male and Female invalidity (hurt on duty) pensioners:

a proportion of the rates assumed for SSS disability pensioners where the proportion ranges from 40% at ages up to 50, increasing to 100% at ages 60-70, then reducing to 66.7% at ages over 80, with a minimum of the retirement pensioner rate at the given age.

Male and Female invalidity (not hurt on duty) pensioners:

a proportion of the rates assumed for SSS disability pensioners where the proportion ranges from 100% at ages up to 70, reducing to 66.7% at ages over 80, with a minimum of the retirement pensioner rate at the given age.

#### Age of Spouse (spouse pensions and reversionary pensions)

When the spouse's date of birth is not provided in the data, the following assumptions were made:

Male pensioner or contributor:

3 years older than wife

Female pensioner or contributor:

2 years younger than husband

### 2.5.6 Proportions Married at Death

For reversionary pensions on current and future pensions, the proportions married at death were assumed to be the same as for the State Superannuation Scheme.

### 2.5.7 Proportions choosing Pension Benefits

Retiring members may elect to receive benefits as a pension or a lump sum.

Based on past experience it was assumed that 50% of retiring members would elect pensions, with the remainder choosing a lump sum.

The proportion of disability pensions assumed to be commuted on attainment of age 60 is 30%.

## 2.5.8 Pensioner Mortality Rates

Age	Retirement Pensioners and Spouses and Widows		Hurt on duty Pensioners		Invalidity Pensioners	
	Males	Females	Males	Females	Males	Females
25	0.0004	0.0004	0.0008	0.0027	0.0020	0.0027
26	0.0004	0.0004	0.0008	0.0027	0.0020	0.0027
27	0.0004	0.0004	0.0008	0.0027	0.0020	0.0027
28	0.0004	0.0004	0.0008	0.0027	0.0020	0.0027
29	0.0004	0.0004	0.0008	0.0027	0.0020	0.0027
30	0.0004	0.0004	0.0008	0.0027	0.0020	0.0027
31	0.0004	0.0004	0.0008	0.0027	0.0020	0.0027
32	0.0004	0.0005	0.0008	0.0034	0.0020	0.0034
33	0.0004	0.0005	0.0008	0.0033	0.0020	0.0033
34	0.0004	0.0005	0.0008	0.0033	0.0019	0.0033
35	0.0004	0.0006	0.0008	0.0040	0.0019	0.0040
36	0.0004	0.0006	0.0008	0.0040	0.0019	0.0040
37	0.0005	0.0006	0.0010	0.0040	0.0024	0.0040
38	0.0005	0.0007	0.0010	0.0042	0.0024	0.0042
39	0.0005	0.0007	0.0009	0.0045	0.0024	0.0045
40	0.0005	0.0007	0.0009	0.0048	0.0024	0.0048
41	0.0005	0.0008	0.0009	0.0050	0.0023	0.0050
42	0.0006	0.0008	0.0011	0.0050	0.0028	0.0050
43	0.0006	0.0009	0.0011	0.0050	0.0028	0.0050
44	0.0006	0.0010	0.0011	0.0051	0.0028	0.0051
45	0.0006	0.0011	0.0013	0.0055	0.0032	0.0055
46	0.0006	0.0012	0.0013	0.0060	0.0032	0.0060
47	0.0007	0.0013	0.0015	0.0064	0.0036	0.0064
48	0.0007	0.0013	0.0014	0.0064	0.0036	0.0064
49	0.0008	0.0013	0.0016	0.0064	0.0041	0.0064
50	0.0009	0.0013	0.0023	0.0064	0.0045	0.0064
51	0.0009	0.0013	0.0022	0.0064	0.0045	0.0064
52	0.0010	0.0013	0.0025	0.0064	0.0049	0.0064
53	0.0011	0.0013	0.0027	0.0065	0.0054	0.0065
54	0.0012	0.0013	0.0030	0.0065	0.0058	0.0065
55	0.0014	0.0013	0.0034	0.0065	0.0068	0.0065
56	0.0015	0.0013	0.0039	0.0069	0.0068	0.0069
57	0.0017	0.0014	0.0043	0.0074	0.0068	0.0074
58	0.0020	0.0016	0.0050	0.0076	0.0069	0.0076
59	0.0023	0.0018	0.0057	0.0078	0.0071	0.0078
60	0.0025	0.0021	0.0063	0.0079	0.0071	0.0079
61	0.0028	0.0025	0.0071	0.0080	0.0071	0.0080
62	0.0031	0.0029	0.0077	0.0081	0.0070	0.0081
63	0.0035	0.0032	0.0086	0.0083	0.0069	0.0083
64	0.0039	0.0036	0.0096	0.0088	0.0076	0.0088
65	0.0045	0.0040	0.0103	0.0093	0.0088	0.0093
66	0.0051	0.0044	0.0108	0.0107	0.0099	0.0107
67	0.0059	0.0047	0.0112	0.0122	0.0112	0.0122
68	0.0068	0.0051	0.0124	0.0133	0.0128	0.0133
69	0.0078	0.0055	0.0138	0.0137	0.0145	0.0137
70	0.0090	0.0059	0.0146	0.0147	0.0167	0.0147
71	0.0107	0.0062	0.0155	0.0158	0.0195	0.0158
72	0.0126	0.0068	0.0172	0.0170	0.0229	0.0170
73	0.0150	0.0076	0.0203	0.0181	0.0270	0.0181
74	0.0179	0.0087	0.0239	0.0200	0.0319	0.0200
75	0.0212	0.0103	0.0282	0.0226	0.0375	0.0226
76	0.0250	0.0124	0.0330	0.0264	0.0432	0.0264

Age	Retirement Pensioners and Spouses and Widows		Hurt on duty Pensioners		Invalidity Pensioners	
	Males	Females	Males	Females	Males	Females
77	0.0294	0.0152	0.0384	0.0315	0.0489	0.0315
78	0.0343	0.0187	0.0443	0.0375	0.0546	0.0375
79	0.0398	0.0228	0.0511	0.0444	0.0594	0.0444
80	0.0460	0.0276	0.0585	0.0514	0.0633	0.0514
81	0.0529	0.0332	0.0623	0.0583	0.0672	0.0583
82	0.0606	0.0394	0.0661	0.0654	0.0711	0.0654
83	0.0693	0.0464	0.0707	0.0725	0.0760	0.0725
84	0.0801	0.0544	0.0801	0.0796	0.0829	0.0796
85	0.0936	0.0638	0.0936	0.0867	0.0936	0.0867
86	0.1096	0.0747	0.1096	0.0938	0.1096	0.0938
87	0.1278	0.0870	0.1278	0.1009	0.1278	0.1009
88	0.1472	0.1008	0.1472	0.1081	0.1472	0.1081
89	0.1672	0.1161	0.1672	0.1161	0.1672	0.1161
90	0.1872	0.1328	0.1872	0.1328	0.1872	0.1328
91	0.2067	0.1505	0.2067	0.1505	0.2067	0.1505
92	0.2253	0.1693	0.2253	0.1693	0.2253	0.1693
93	0.2420	0.1890	0.2420	0.1890	0.2420	0.1890
94	0.2568	0.2098	0.2568	0.2098	0.2568	0.2098
95	0.2696	0.2315	0.2696	0.2315	0.2696	0.2315
96	0.2807	0.2544	0.2807	0.2544	0.2807	0.2544
97	0.2900	0.2783	0.2900	0.2783	0.2900	0.2783
98	0.2994	0.3021	0.2994	0.3021	0.2994	0.3021
99	0.3098	0.3265	0.3154	0.3265	0.3154	0.3265
100	0.3221	0.3512	0.3365	0.3512	0.3365	0.3512
101	0.3365	0.3764	0.3584	0.3764	0.3584	0.3764
102	0.3529	0.4007	0.3812	0.4007	0.3812	0.4007
103	0.3714	0.4232	0.4050	0.4232	0.4050	0.4232
104	0.3919	0.4439	0.4296	0.4439	0.4296	0.4439
105	0.4198	0.4662	0.4610	0.4662	0.4610	0.4662
106	0.4437	0.4815	0.4866	0.4815	0.4866	0.4815
107	0.4696	0.4948	0.5130	0.4948	0.5130	0.4948
108	0.4975	0.5061	0.5402	0.5061	0.5402	0.5061
109	0.5274	0.5154	0.5696	0.5154	0.5696	0.5154
110	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000

For retirement and spouse pensioners mortality rates as above apply for the year 2009/10. For subsequent years, rates are reduced to reflect future improvements in mortality as for SSS (see section 2.4.8)

## 3

### 3. Summary of Financial Data

#### 3.1 Total Pooled Fund

**3.1.1** The table below summarises the total income and expenditure of the Pooled Fund during the intervalation period. The data has been taken from the audited annual reports of the Trustee for 2006/07, 2007/08 and 2008/09.

Financial Year ending 30th June	2007 \$m	2008 \$m	2009 \$m	3 years to 2009 \$m
<b>Reserves at beginning</b>	<b>28,578.1</b>	<b>38,587.0</b>	<b>34,213.8</b>	<b>28,578.1</b>
<b>Income</b>				
Contributions				
➤ Employer	7,437.5	1,130.9	1,152.2	9,720.6
➤ Employee	515.9	564.1	545.6	1,625.6
Investment income	4,940.8	-3,062.1	-4,128.9	-2,250.2
Miscellaneous	6.0	2.7	2.3	11.0
Net Transfers	0.4	4.3	-1.4	3.3
<b>Total income</b>	<b>12,900.6</b>	<b>-1,360.1</b>	<b>-2,430.2</b>	<b>9,110.3</b>
<b>Expenditure</b>				
Total benefits	2,758.9	3,075.1	3,020.8	8,854.8
Expenses of management	33.5	33.6	34.4	101.5
Investment Expenses	81.0	109.1	85.4	275.5
Tax	27.6	-194.8	-199.8	-367.0
Superannuation Contributions				
Surcharge	-9.3	-9.9	-4.9	-24.1
<b>Total expenditure</b>	<b>2,891.7</b>	<b>3,013.1</b>	<b>2,935.9</b>	<b>8,840.7</b>
<b>Reserves at 30 June</b>	<b>38,587.0</b>	<b>34,213.8</b>	<b>28,847.7</b>	<b>28,847.7</b>

## 3.2 SASS

Consolidated Revenue Account for SASS for the period 1 July 2006 to 30 June 2009

	Period ended			3 years to 2009
	30 June 2007	30 June 2008	30 June 2009	
	\$m	\$m	\$m	\$m
Reserves at 1 July	8,590.3	9,282.0	8,590.2	8,590.3
Net Transfers*	0.2	3.0	-1.0	2.2
<b>Income</b>				
Contributions				
Employer	131.0	714.0	885.5	1,730.5
Employee	204.0	234.2	235.6	673.8
Investment income*	1,232.4	-705.3	-1,034.6	-507.5
Miscellaneous*	1.8	0.6	0.6	3.0
<b>Total income</b>	<b>1,569.2</b>	<b>243.6</b>	<b>87.0</b>	<b>1,899.8</b>
<b>Expenditure</b>				
Total benefits	836.7	954.8	845.4	2,636.9
Expenses of management*	10.2	10.4	9.6	30.2
Investment expenses*	24.3	26.2	21.4	72.0
Tax*	6.7	-46.9	-50.2	-90.3
Superannuation Contributions Surcharge*	-0.2	-6.3	-3.8	-10.2
<b>Total expenditure</b>	<b>877.7</b>	<b>938.4</b>	<b>822.5</b>	<b>2,638.6</b>
<b>Reserves at 30 June</b>	<b>9,282.0</b>	<b>8,590.2</b>	<b>7,853.7</b>	<b>7,853.7</b>

Note: We have not been provided with a split of tax, expenses or some of the transfers between the schemes in the Pooled Fund. The items marked \* above are estimated allocations amongst the various items over the total three years in the investigation period.

### 3.2.1 Reserve Allocations

The total reserves are allocated between Employer reserves, Member reserves, Death and Invalidity reserve and Deferred Benefits reserves as below:

	\$m
Employer reserves	2,866.7
Member reserves	3,859.4
D or I reserves	2.1
Deferred members reserves	1,125.5
<b>Total</b>	<b>7,853.7</b>

### 3.2.2 Employer Reserve Allocations

The total employer reserves are allocated between individual Employers' reserves:

	<b>Individual employer results \$m</b>	<b>Total  \$m</b>
Total Employer's reserve from accounts		2,866.7
Adjustment		19.4
Employer's reserve from sum of individual allocations	2,886.1	2,886.1

Note: The adjustment of \$19.4 million is a balancing item between the general ledger and the individual employer reserves. A difference between individual employer reserve balances and the accounts at the end of the year is usual and is due mainly to:

- Extra surplus/deficit allocated to employer reserves for annual accounts reporting purposes and
- Actual tax for the year is included in the accounts but only an estimate in the individual employer reserves.

### 3.3 SANCS

#### 3.3.1 Consolidated Revenue Account for SANCS for the period 1 July 2006 to 30 June 2009

	Period ended			3 years to 2009 \$m
	30 June 2007 \$m	30 June 2008 \$m	30 June 2009 \$m	
Reserves at 1 July	1,144.6	1,167.9	1,186.3	1,144.6
Net Transfers*	0.1	1.3	-0.4	1.0
<b>Income</b>				
Contributions				
Employer	39.6	331.7	204.7	576.0
Employee	20.8	9.3	6.9	37.0
Investment income*	168.5	-90.4	-148.6	-70.5
Miscellaneous*	0.2	0.1	0.1	0.4
<b>Total income</b>	<b>229.1</b>	<b>250.7</b>	<b>63.1</b>	<b>542.9</b>
<b>Expenditure</b>				
Total benefits	199.4	236.5	221.3	657.2
Expenses of management*	2.4	2.6	2.5	7.5
Investment expenses*	3.2	3.3	3.0	9.5
Tax*	0.9	-5.9	-6.9	-11.9
Superannuation				
Contributions Surcharge*	0.0	-2.9	-0.9	-3.8
<b>Total expenditure</b>	<b>205.9</b>	<b>233.6</b>	<b>219.0</b>	<b>658.5</b>
<b>Reserves at 30 June</b>	<b>1,167.9</b>	<b>1,186.3</b>	<b>1,030.0</b>	<b>1,030.0</b>

Note: We have not been provided with a split of tax, expenses or some of the transfers between the schemes in the Pooled Fund. The items marked \* above are estimated allocations amongst the various items over the total three years in the investigation period.

#### 3.3.2 Reserve Allocations

The total reserves are allocated between Employer reserves and Deferred Benefits reserves as below:

	\$m
Employer reserves	776.7
Deferred members reserves	253.3
<b>Total</b>	<b>1,030.0</b>

### 3.3.3 Employer Reserve Allocations

The total employer reserves are allocated between Parts using the individual employer reserve amounts:

	Individual data results \$m	Total \$m
Total Employer's reserve from accounts		776.7
Less sum of co-contributions from individual member data	40.1	-40.1
Adjustment		0.4
Employer's reserve from sum of individual allocations	737.0	737.0

Note: The adjustment of \$0.4 million is a balancing item between the general ledger and the individual employer reserves. A difference between individual employer reserve balances and the accounts at the end of the year is usual and is due mainly to:

- Extra surplus/deficit allocated to employer reserves for annual accounts reporting purposes and
- Actual tax for the year is included in the accounts but only an estimate in the individual employer reserves.

### 3.4 SSS

#### 3.4.1 Consolidated Revenue Account for SSS for the period 1 July 2006 to 30 June 2009

	Period ended			3 years to 2009 \$m
	30 June 2007 \$m	30 June 2008 \$m	30 June 2009 \$m	
Reserves at 1 July	17,880.7	24,030.7	20,974.7	17,880.7
Net Transfers*	0.1	0.0	0.0	0.1
<b>Income</b>				
Contributions				
Employer	4,191.5	84.6	61.3	4,337.4
Employee	273.9	305.7	288.2	867.8
Investment income*	3,119.3	-1,970.3	-2,571.0	-1,422.0
Miscellaneous*	3.8	1.7	1.4	6.8
<b>Total income</b>	<b>7,588.5</b>	<b>-1,578.4</b>	<b>-2,220.1</b>	<b>3,790.1</b>
<b>Expenditure</b>				
Total benefits	1,359.7	1,515.2	1,592.6	4,467.5
Expenses of management*	16.5	16.6	18.1	51.2
Investment expenses*	50.7	67.9	52.4	171.0
Tax*	16.9	-121.3	-122.5	-226.9
Superannuation				
Contributions Surcharge*	-5.2	-0.7	-0.3	-6.2
<b>Total expenditure</b>	<b>1,438.6</b>	<b>1,477.6</b>	<b>1,540.3</b>	<b>4,456.6</b>
<b>Reserves at 30 June</b>	<b>24,030.7</b>	<b>20,974.7</b>	<b>17,214.3</b>	<b>17,214.3</b>

Note: We have not been provided with a split of tax, expenses or some of the transfers between the schemes in the Pooled Fund. The items marked \* above are estimated allocations amongst the various items over the total three years in the investigation period.

#### 3.4.2 Reserve Allocations

The total reserves are allocated between Employer reserves and Member reserves as below:

	\$m
Employer reserves	13,587.7
Member reserves	3,626.6
<b>Total</b>	<b>17,214.3</b>
Member reserves adjustment	29.7

Note: the member reserves adjustment represents the difference between the sum of the individual reserves and the total contributor reserve shown in the annual accounts.

### 3.4.3 Employer Reserve Allocations

	Individual employer results \$m	Total \$m
Total Employer's reserve from accounts		13,587.7
Adjustment		78.0
Employer's reserve from sum of individual allocations	13,665.7	13,665.7

Note: We have been advised that an adjustment of about \$80 million was made to the accounts to reflect the correct market value of some unlisted trusts and was posted to the SSS employer reserve for year end reporting purposes as per STC's instruction. In addition there is usually a difference between individual employer reserve balances and the accounts at the end of the year due mainly to:

- Extra surplus/deficit allocated to employer reserves for annual accounts reporting purposes and
- Actual tax for the year is included in the accounts but only an estimate in the individual employer reserves.

### 3.5 PSS

#### 3.5.1 Consolidated Revenue Account for PSS for the period 1 July 2006 to 30 June 2009

	Period ended			3 years to 2009 \$m
	30 June 2007 \$m	30 June 2008 \$m	30 June 2009 \$m	
Reserves at 1 July	962.5	4,106.4	3,462.6	962.5
Net Transfers*	0.0	0.0	0.0	0.0
<b>Income</b>				
Contributions				
Employer	3,075.4	0.6	0.7	3,076.7
Employee	17.2	14.9	14.9	47.0
Investment income*	420.6	-296.1	-374.7	-250.2
Miscellaneous*	0.2	0.3	0.2	0.7
<b>Total income</b>	<b>3,513.4</b>	<b>-280.3</b>	<b>-358.9</b>	<b>2,874.2</b>
<b>Expenditure</b>				
Total benefits	363.1	368.6	361.5	1,093.2
Expenses of management*	4.4	4.0	4.1	12.6
Investment expenses*	2.7	11.6	8.6	23.0
Tax*	3.1	-20.7	-20.2	-37.9
Superannuation				
Contributions Surcharge*	-3.8	0.0	0.0	-3.9
<b>Total expenditure</b>	<b>369.5</b>	<b>363.5</b>	<b>354.0</b>	<b>1,087.0</b>
<b>Reserves at 30 June</b>	<b>4,106.4</b>	<b>3,462.6</b>	<b>2,749.7</b>	<b>2,749.7</b>

Note: We have not been provided with a split of tax, expenses or some of the transfers between the schemes in the Pooled Fund. The items marked \* above are estimated allocations amongst the various items over the total three years in the investigation period.

#### 3.5.2 Reserve Allocations

The total reserves are allocated between Employer reserves and Member reserves as below:

	\$m
Employer reserves	2,435.5
Member reserves	314.2
<b>Total</b>	<b>2,749.7</b>
Member reserves adjustment	7.2

Note: the member reserves adjustment represents the difference between the sum of the individual member reserves and the total contributor reserve shown in the annual accounts.

### 3.5.3 Employer Reserve Allocations

	Individual employer results \$m	Total \$m
Total Employer's reserve from accounts		2,435.5
Adjustment		-11.5
Employer's reserve from sum of individual allocations		2,424.0

Note: The adjustment of -\$11.5 million is a balancing item between the general ledger and the individual employer reserves. A difference between individual employer reserve balances and the accounts at the end of the year is usual and is due mainly to:

- Extra surplus/deficit allocated to employer reserves for annual accounts reporting purposes and
- Actual tax for the year is included in the accounts but only an estimate in the individual employer reserves.

## 4

## 4. Summary and Analysis of Valuation Data

## 4.1 SASS

## 4.1.1 Movement Summary - Contributors (1 July 2006 to 30 June 2009)

	Part 1 Employers		Part 3 Employers		Total
	Male	Female	Male	Female	
Contributors at 1 July 2006 (as per previous valuation report)	22,110	17,941	5,016	11,919	56,986
Late Movements and Corrections, Transfers, Reinstatements (Net)	-16	-8	14	-18	-24
Exits					
-Deaths	91	38	27	34	190
-Total Disablements	86	46	33	39	204
-Partial Disablements	273	158	29	60	520
-Resignations	637	592	134	509	1,872
-Retirements	1,878	2,253	592	1,413	6,136
-Retrenchments	944	271	38	42	1,295
Total Exits	3,909	3,358	853	2,097	10,217
Contributors as at 30 June 2009 (In force at 30 June 2009 for valuation)	18,185	14,575	4,177	9,804	46,741

**4.1.2 Part 1 Employers - Contributors as at 30 June 2009**

<b>Age</b>	<b>Number of Contributors</b>	<b>Annual Salary Payable as at 31 December 2008 \$000</b>	<b>Members' Accumulated Contributions with Interest as at 30 June 2009 \$000</b>	<b>Members' Accumulated Benefit Points as at 30 June 2009</b>	<b>Average Employee Contribution rate at 30 June 2009 %</b>
<b>Males</b>					
31-35	62	4,635	3,307	5,763	5.61
36-40	1,707	137,074	103,116	153,239	5.61
41-45	2,872	227,259	200,058	311,799	6.08
46-50	3,943	306,884	326,406	514,140	6.34
51-55	4,181	322,576	405,960	602,205	6.48
56-60	3,553	267,490	388,968	556,257	6.38
61-65	1,589	113,012	178,642	252,128	6.58
66-70	278	19,390	32,258	42,717	7.20
<b>Totals</b>	<b>18,185</b>	<b>1,398,320</b>	<b>1,638,715</b>	<b>2,438,248</b>	<b>6.29</b>
<b>Females</b>					
31-35	20	1,393	719	1,326	5.14
36-40	987	72,570	41,669	64,839	4.74
41-45	2,071	158,211	107,824	153,315	5.61
46-50	2,479	193,386	166,203	227,748	6.69
51-55	3,008	227,802	227,120	316,762	7.22
56-60	3,759	267,737	298,957	429,558	7.27
61-65	1,923	123,447	150,295	231,689	7.20
66-70	328	20,274	26,497	42,329	7.01
<b>Totals</b>	<b>14,575</b>	<b>1,064,820</b>	<b>1,019,284</b>	<b>1,467,566</b>	<b>6.72</b>

**4.1.3 Part 3 Employers - Contributors as at 30 June 2009**

<b>Age</b>	<b>Number of Contributors</b>	<b>Annual Salary Payable as at 31 December 2008 \$000</b>	<b>Members' Accumulated Contributions with Interest as at 30 June 2009 \$000</b>	<b>Members' Accumulated Benefit Points as at 30 June 2009</b>	<b>Average Employee Contribution rate at 30 June 2009 %</b>
<b>Males</b>					
31-35	3	200	156	331	8.20
36-40	94	6,643	4,942	7,839	5.36
41-45	344	24,788	22,231	33,419	6.59
46-50	788	61,812	67,339	87,348	6.92
51-55	1,143	95,834	126,291	144,493	7.40
56-60	1,066	94,081	140,561	146,012	7.25
61-65	632	55,218	96,678	92,883	7.06
66-70	107	10,438	19,930	16,691	6.99
<b>Totals</b>	<b>4,177</b>	<b>349,014</b>	<b>478,128</b>	<b>529,017</b>	<b>7.11</b>
<b>Females</b>					
31-35	3	174	85	157	6.19
36-40	294	19,869	10,758	17,654	4.73
41-45	929	67,596	45,259	65,841	5.66
46-50	1,772	127,533	111,032	151,869	6.65
51-55	2,590	191,000	196,063	256,796	7.28
56-60	2,573	186,225	228,640	295,088	7.64
61-65	1,368	94,440	129,211	167,323	7.45
66-70	275	18,980	28,032	35,299	7.26
<b>Totals</b>	<b>9,804</b>	<b>705,817</b>	<b>749,080</b>	<b>990,026</b>	<b>7.06</b>

**4.1.4 All Employers - Contributors as at 30 June 2009**

<b>Number of Contributors</b>	<b>Annual Salary Payable as at 31 December 2008 \$000</b>	<b>Members' Accumulated Contributions with Interest as at 30 June 2009 \$000</b>	<b>Members' Accumulated Benefit Points as at 30 June 2009</b>
46,741	3,517,921	3,885,207	5,424,857

#### 4.1.5 Movement Summary – Deferred Membership (1 July 2006 to 30 June 2009)

	Part 1 Employers		Part 3 Employers		Total
	Male	Female	Male	Female	
Contributors at 1 July 2006 (as per previous valuation report)	3,753	4,037	960	3,059	11,809
Late Movements and Corrections, Transfers, Reinstatements (Net)	-141	-503	137	496	-11
Members at 1 July 2006	3,612	3,534	1,097	3,555	11,798
New Entrants	725	456	97	342	1620
Exits					
-Retirement	476	659	131	443	1709
-Transfer	1	0	0	0	1
-Death	15	8	6	3	32
-Invalidity	0	0	0	0	0
-SIS invalidity	77	101	18	49	245
-Withdrawal	115	83	11	51	260
Total Exits	684	851	166	546	2,247
Members as at 30 June 2009 (In force at 30 June 2009 for valuation)	3,653	3,139	1,028	3,351	11,171

**4.1.6 All Employers - Membership as at 30 June 2009 - Deferred benefits**

<b>Age</b>	<b>Number of Contributors</b>	<b>Total cash termination benefit \$000</b>	<b>Total current benefit including interest \$000</b>
<b>Males</b>			
31-35	27	738	1,148
36-40	371	15,879	24,960
41-45	852	50,667	76,362
46-50	1,246	106,054	154,615
51-55	1,519	171,811	254,209
56-60	662	79,517	116,952
61-65	3	184	276
66-70	1	3	3
<b>Totals</b>	<b>4,681</b>	<b>424,852</b>	<b>628,525</b>
<b>Females</b>			
31-35	9	137	211
36-40	543	14,994	24,023
41-45	1,289	45,480	73,325
46-50	1,714	78,629	126,428
51-55	1,918	111,134	177,783
56-60	1,016	62,578	101,355
61-65	1	5	6
66-70	0	0	0
<b>Totals</b>	<b>6,490</b>	<b>312,957</b>	<b>503,131</b>

**4.1.7 Movement Summary - Pensioners (1 July 2006 - 30 June 2009)**

	Part 1 Employers		Part 3 Employers	Total
	Non-RSA	RSA		
Pensioners at 1 July 2006 (as per previous valuation report)	989	3,296	356	4,641
Late Movements and Corrections (Net)	2	-3	8	7
Pensioners at 1 July 2006	991	3,293	364	4,648
New Pensioners				
-new pensions	330	29	230	589
-reversions	10	121	5	136
Exits				
-expiry	5	46	0	51
-death	203	1,005	15	1,223
Pensioners as at 30 June 2009	1,123	2,392	584	4,099

**4.1.8 All Employers - Total Pensioners as at 30 June 2009**

	Type of Pensioner					
	Ex-Members (Retirement and Retrenchment)		Invalidity		Spouses and Children	
	No	Annual Pension \$000	No	Annual Pension \$000	No	Annual Pension \$000
Part 1 (non RSA)	804	14,525	105	2,046	214	1,306
Part 1 (RSA)	744	5,595	1	7	1,647	2,372
Part 3	472	11,437	57	833	55	377
Total	2,020	31,557	163	2,886	1,916	4,055

Note: Under Part 3 there are some ex-members who have fully commuted their own pension but retain entitlement to a reversionary pension. No data currently exists for these. The value of these reversions has been estimated by projecting forward 31 March 1984 data with allowance for the probability of survival of ex-member and spouse from the date of commutation to the valuation.

**4.1.9 Age Distribution of Pensioners at 30 June 2009**

	Retirement/ Retrenchment		Invalidity		Spouses and Children	
	No	Annual Pension \$	No	Annual Pension \$	No	Annual Pension \$
40-44	1	15,363	0	0	0	0
45-49	0	0	9	144,036	1	17,278
50-54	0	0	16	295,647	1	8,483
55-59	8	164,239	44	870,624	4	41,565
60-64	391	8,508,828	56	1,152,782	5	40,635
65-69	520	11,301,081	15	228,244	28	134,034
70-74	235	4,232,317	7	68,390	52	162,405
75-79	82	904,019	2	36,516	160	340,642
80-84	231	1,968,472	7	32,055	467	814,579
85-89	306	2,349,278	3	20,506	614	1,258,650
90-94	181	1,659,303	3	26,505	420	864,420
95-99	54	372,121	1	10,810	138	334,328
100+	11	81,586	0	0	26	38,292
<b>Total</b>	<b>2,020</b>	<b>31,556,607</b>	<b>163</b>	<b>2,886,115</b>	<b>1,916</b>	<b>4,055,311</b>

## 4.2 SANCS

### 4.2.1 Movement Summary - Contributors (1 July 2006 to 30 June 2009)

	Part 1 Employers		Part 3 Employers		Total
	Male	Female	Male	Female	
Contributors at 1 July 2006 (as per previous valuation report)	42,864	27,100	5,016	11,919	86,899
Late Movements and Corrections, Transfers, Reinstatements (Net)	-224	-80	14	-18	-308
Exits					
-Deaths	136	51	27	34	248
-Total Disablements	1,759	496	62	99	2,416
-Resignations	755	694	134	509	2,092
-Retirements	5,527	3,928	592	1413	11,460
-Retrenchments	1,004	312	38	42	1,396
Total Exits	9,181	5,481	853	2,097	17,612
Contributors as at 30 June 2009 (In force at 30 June 2009 for valuation)	33,459	21,539	4,177	9,804	68,979

**4.2.2 Part 1 Employers - Contributors as at 30 June 2009**

<b>Age</b>	<b>Number of Contributors</b>	<b>Annual Superannuation Salary as at 31 December 2008 \$000</b>
<b>Males</b>		
31-35	62	4,635
36-40	1,719	138,039
41-45	3,726	305,590
46-50	6,142	505,486
51-55	9,923	841,281
56-60	9,463	818,818
61-65	2,111	163,938
66-70	313	22,424
<b>Totals</b>	<b>33,459</b>	<b>2,800,211</b>
<b>Females</b>		
31-35	20	1,393
36-40	996	73,214
41-45	2,457	187,768
46-50	3,790	297,560
51-55	6,811	542,922
56-60	5,043	377,082
61-65	2,081	136,610
66-70	341	21,363
<b>Totals</b>	<b>21,539</b>	<b>1,637,912</b>

**4.2.3 Part 3 Employers - Contributors as at 30 June 2009**

<b>Age</b>	<b>Number of Contributors</b>	<b>Annual Salary Payable as at 31 December 2008 \$000</b>
<b>Males</b>		
31-35	3	200
36-40	94	6,643
41-45	344	24,788
46-50	788	61,812
51-55	1,143	95,834
56-60	1,066	94,081
61-65	632	55,218
66-70	107	10,438
Totals	4,177	349,014
<b>Females</b>		
31-35	3	174
36-40	294	19,869
41-45	929	67,596
46-50	1,772	127,533
51-55	2,590	191,000
56-60	2,573	186,225
61-65	1,368	94,440
66-70	275	18,980
Totals	9,804	705,817

**4.2.4 All Employers - Contributors as at 30 June 2009**

<b>Number of Contributors</b>	<b>Annual Salary Payable as at 31 December 2008 \$000</b>
68,979	5,492,954

#### 4.2.5 Movement Summary - Deferred Membership (1 July 2006 to 30 June 2009)

	Male	Female	Total
Contributors at 1 July 2006 (as per previous valuation report)	6,590	8,271	14,861
Late Movements and Corrections, Transfers, Reinstatements (Net)			
New Entrants	-14	-14	-28
Exits	969	928	1,897
-Retirement			
-Transfer	980	1,301	2,281
-Death	29	12	41
-SIS invalidity	28	16	44
-Withdrawal	102	152	254
-Compassionate hardship	202	151	353
-Financial hardship	2	0	2
Total Exits	2	1	3
Members as at 30 June 2009 (In force at 30 June 2009 for valuation)	1,345	1,633	2,978

Note that where some information is missing in respect of a member, they are assumed male.

**4.2.6 All Employers - Membership as at 30 June 2009 - Deferred benefits**

<b>Age</b>	<b>Number of Contributors</b>	<b>Total current benefit including interest \$000</b>	<b>Total Shortfall including interest \$000</b>
<b>Males</b>			
31-35	24	168	0
36-40	360	4,560	40
41-45	870	12,673	112
46-50	1,376	21,573	51
51-55	2,141	36,674	27
56-60	1,254	17,558	32
61-65	160	1,927	0
66-70	15	100	22
Totals	6,200	95,233	284
<b>Females</b>			
31-35	9	33	3
36-40	524	4,997	90
41-45	1,340	14,513	38
46-50	1,940	21,644	98
51-55	2,426	30,117	66
56-60	1,261	14,221	64
61-65	51	396	1
66-70	1	15	0
Totals	7,552	85,936	360

**4.2.7 All Employers and all schemes – OC Balances as at 30 June 2009**

<b>Age</b>	<b>Number of Contributors</b>	<b>Total current Other Contributions balances \$000</b>
31-35	22	43
36-40	1,136	2,439
41-45	2,613	5,061
46-50	3,560	6,517
51-55	4,690	8,463
56-60	4,894	10,055
61-65	2,678	6,314
66-70	531	1,255
Totals	20,125	40,147

## 4.3 SSS

### 4.3.1 Movement Summary - Contributors (1 July 2006 to 30 June 2009)

	Male	Female R55	Female R60	Total
Contributors at 1 July 2006 (as per previous valuation report)	17,833	4,379	4,404	26,616
Late Movements and Corrections (Net)	-144	-32	-39	-215
Exits				
-Deaths	37	4	8	49
-Breakdown Retirement	680	72	124	876
-Resignations	113	48	54	215
-Retrenchments	60	25	16	101
-Retirements	3,583	1,138	536	5,257
Total Exits	4,473	1,287	738	6,498
Contributors as at 30 June 2009 (In force at 30 June 2009 for valuation)	13,216	3,060	3,627	19,903

## 4.3.2 Contributors as at 30 June 2009

Age	Number of Contributors	Annual Salary	Employee annual contribution as at 30 June 2009	Units held at 30 June 2009	Members' Accumulated Contributions with Interest as at 30 June 2009	Outstanding Balance due on S10AH Units
		\$000	\$000		\$000	\$000
<b>Males</b>						
36-40	3	210	9	889	156	0
41-45	193	16,368	936	68,278	14,330	0
46-50	1,427	123,062	9,190	511,112	150,807	0
51-55	5,300	475,737	50,892	1,966,173	857,523	100
56-60	5,753	535,751	86,896	2,201,652	1,368,283	85,641
61-65	507	48,758	5,831	197,072	157,529	9,478
66-70	33	2,770	441	11,048	11,473	97
<b>Totals</b>	<b>13,216</b>	<b>1,202,656</b>	<b>154,195</b>	<b>4,956,224</b>	<b>2,560,101</b>	<b>95,316</b>
<b>Females R55</b>						
36-40	3	202	11	857	181	0
41-45	104	7,532	559	30,235	8,232	0
46-50	579	44,172	4,956	178,460	71,708	0
51-55	2,089	173,094	29,365	701,803	423,513	30,624
56-60	229	19,126	2,608	77,834	63,094	3,900
61-65	51	4,157	759	15,996	17,055	131
66-70	5	497	100	1,860	2,324	0
<b>Totals</b>	<b>3,060</b>	<b>248,780</b>	<b>38,358</b>	<b>1,007,045</b>	<b>586,107</b>	<b>34,655</b>
<b>Females R60</b>						
36-40	2	133	5	566	80	0
41-45	141	10,255	495	41,621	7,854	0
46-50	635	50,977	3,345	205,585	54,074	0
51-55	1,689	139,597	13,200	566,898	222,812	25
56-60	1,048	89,561	13,346	365,870	199,123	12,373
61-65	104	8,713	1,115	35,261	24,257	1,719
66-70	8	591	80	2,055	1,852	46
<b>Totals</b>	<b>3,627</b>	<b>299,827</b>	<b>31,586</b>	<b>1,217,856</b>	<b>510,052</b>	<b>14,163</b>
<b>Total male and female</b>	<b>19,903</b>	<b>1,751,263</b>	<b>224,139</b>	<b>7,181,125</b>	<b>3,656,260</b>	<b>144,134</b>

#### 4.3.3 Movement Summary - Deferred Membership (1 July 2006 to 30 June 2009)

	Male	Female	Total
Members at 1 July 2006 (as per previous valuation)	2,459	1,667	4,126
Late Movements and Corrections (Net)	-9	-14	-23
Members at 1 July 2006	2,450	1,653	4,103
New Preservations	101	102	203
Exits			
-Retirement	576	359	935
-Death	8	4	12
-Invalidity	2	2	4
-Withdrawal	96	32	128
Total Exits	682	397	1,079
Members as at 30 June 2009 (In force at 30 June 2009 for valuation)	1,869	1,358	3,227

#### 4.3.4 Membership as at 30 June 2009 - Deferred benefits

Age	Number of Deferred Benefit Holders	Total cash termination benefit \$000	Total annual Deferred pension \$000
<b>Males</b>			
41-45	53	3,378	661
46-50	265	25,059	3,959
51-55	779	105,664	14,576
56-60	677	98,240	12,819
61-65	84	12,513	1,564
66-70	11	2,213	174
Totals	1,869	247,068	33,753
<b>Females</b>			
36-40	1	72	9
41-45	101	6,456	1,142
46-50	341	26,163	4,265
51-55	642	74,850	10,673
56-60	240	28,433	3,759
61-65	32	3,262	421
66-70	1	8	6
Totals	1,358	139,245	20,275
All	3,227	386,313	54,028

**4.3.5 Movement Summary - Pensioners (1 July 2006 - 30 June 2009)**

	<b>Current pensioners</b>	<b>Fully Commuted pensioners</b>
Pensioners at 1 July 2006 (as per previous valuation report)	39,754	17,999
Late Movements and Corrections (Net)	-18	-
New Pensioners		
-new pensions	6,955	525
-reversions	1,098	
Exits		
-expiry	125	
-death	2,896	493
-commutation	252	
-other exits from fully commuted		102
Pensioners as at 30 June 2009	44,516	17,929

**4.3.6 Age Distribution of Current Pensioners at 30 June 2009**

	Retirement		Breakdown		Widows		Children	
	No	Annual Pension \$	No	Annual Pension \$	No	Annual Pension \$	No	Annual Pension \$
10-14	0	0	0	0	0	0	1	2,727
15-19	0	0	0	0	0	0	24	68,052
20-24	0	0	0	0	0	0	65	207,235
25-29	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0
35-39	0	0	0	0	7	194,953	1	12,955
40-44	0	0	26	839,646	20	536,027	0	0
45-49	0	0	269	8,874,039	92	2,359,579	1	6,477
50-54	148	4,740,831	1,200	46,047,316	292	7,402,359	3	22,159
55-59	3,349	121,718,050	1,972	76,697,348	394	10,001,196	0	0
60-64	8,869	361,534,378	1,814	65,932,311	607	14,701,681	0	0
65-69	6,676	249,115,884	1,044	35,293,386	704	16,883,245	0	0
70-74	3,897	132,582,923	619	19,292,302	820	18,856,149	0	0
75-79	2,429	62,239,766	318	8,635,314	1,020	24,063,300	0	0
80-84	2,275	48,351,852	247	5,113,089	1,197	29,808,732	0	0
85-89	1,677	35,487,253	112	2,685,065	954	23,609,940	0	0
90-94	531	13,320,589	20	424,290	521	13,856,601	0	0
95-99	119	3,591,910	2	30,961	155	4,127,302	0	0
100+	11	314,685	1	33,942	13	304,190	0	0
Total	29,981	1,032,998,121	7,644	269,899,056	6,796	166,705,209	95	319,605

Note that some children's pensions are recorded with spouse pensions when there is a surviving parent.

**4.3.7 Age Distribution of Fully Commuted Pensioners at 30 June 2009**

	Retirement		Breakdown	
	No	Annual Pension to spouse \$	No	Annual Pension to spouse \$
<55	7	17,496	5	103,166
55-59	236	4,247,411	177	4,384,738
60-64	933	16,809,989	378	8,625,684
65-69	2,177	40,989,317	313	6,767,660
70-74	4,022	75,353,172	300	6,066,622
75-79	4,798	95,368,486	296	6,082,514
80-84	3,095	72,556,859	162	3,456,733
85-89	697	16,788,329	43	1,049,289
90-94	213	5,698,801	8	198,114
95-99	59	1,801,387	1	10,440
100+	9	163,094	0	0
Total	16,246	329,794,688	1,683	36,744,969

## 4.4 PSS

### 4.4.1 Movement Summary - Contributors (1 July 2006 to 30 June 2009)

	Male	Female	Total
Contributors at 1 July 2006 (as per previous valuation report)	2,921	376	3,297
Late Movements and Corrections (Net)	-44	-1	-45
Contributors at 1 July 2006	2,877	375	3,252
New entrants	-	-	-
Exits			
-Deaths (killed on duty)	1	-	1
-Deaths (not killed on duty)	7	1	8
-Retired hurt on duty	235	32	267
-Disablements (not hurt on duty)	487	64	551
-Resignations	6	-	6
-Retirements	66	1	67
Total Exits	802	98	900
Contributors as at 30 June 2009 (In force at 30 June 2009 for valuation)	2,075	277	2,352

### 4.4.2 Contributors as at 30 June 2009

Age	Number of Contributors	Annual Salary  \$000	Employee contribution as at 30 June 2009  \$000	Average years of service at 30 June 2009	Members' Accumulated Contributions with Interest as at 30 June 2009 \$000
<b>Males</b>					
36-40	9	773	50	21.4	949
41-45	661	62,427	4,069	22.6	76,247
46-50	772	76,543	4,985	25.9	107,533
51-55	443	44,528	2,903	29.3	69,401
56-60	163	16,927	1,103	33.6	28,589
61-65	24	2,328	152	36.7	4,361
66-70	3	268	18	41.6	566
Totals	2,075	203,794	13,280	26.3	287,646
<b>Females</b>					
36-40	4	315	21	21.3	384
41-45	141	11,999	839	22.8	15,173
46-50	97	9,198	629	25.7	12,963
51-55	25	2,494	166	26.6	3,553
56-60	7	667	44	31.9	1,136
61-65	3	298	19	39.4	562
Totals	277	0	0	0.0	0
<b>Total male and female</b>	2,352	228,765	14,998	26.1	321,417

**4.4.3 Movement Summary - Deferred Membership (1 July 2006 to 30 June 2009)**

	Male	Female	Total
Members at 1 July 2006 (as per previous valuation)	160	19	179
Late Movements and Corrections (Net)	-8	-1	-9
Members at 1 July 2006	152	18	170
New Preservations	6	-	6
Exits			
- Withdrawal	4	1	5
- Retirement	8	1	9
Total Exits	12	2	14
Members as at 30 June 2009 (In force at 30 June 2009 for valuation)	146	16	162

**4.4.4 Membership as at 30 June 2009 - Deferred benefits**

Age	Number of Contributors	Total cash termination benefit \$000	Total current Deferred benefit \$000
<b>Males</b>			
41-45	27	1,979	2,204
46-50	49	4,357	5,031
51-55	40	3,969	4,988
56-60	25	2,906	3,795
61-65	5	482	810
Totals	146	13,693	16,828
<b>Females</b>			
41-45	5	330	341
46-50	9	827	866
51-55	2	150	185
Totals	16	1,307	1,392
All	162	14,999	18,220

**4.4.5 Movement Summary - Pensioners (1 July 2006 - 30 June 2009)**

Pensioners at 1 July 2006 (as per previous valuation report)	5,697
Late Movements and Corrections (Net)	79
Pensioners at 1 July 2006	5,776
New Pensioners	
-new pensions	856
-reversions	127
Exits	
-expiry	9
-death	365
-commutation	195
Pensioners as at 30 June 2009	6,190

**4.4.6 Age Distribution of Pensioners at 30 June 2009**

	Retirement		Breakdown		Widows		Children		HOD	
	No	Annual Pension \$	No	Annual Pension \$	No	Annual Pension \$	No	Annual Pension \$	No	Annual Pension \$
35-39	0	0	0	0	4	136,241	0	0	11	563,719
40-44	0	0	14	621,384	9	295,745	0	0	647	34,369,842
45-49	0	0	59	2,817,546	25	799,137	0	0	908	49,152,360
50-54	1	83,432	92	4,652,437	32	931,526	1	5,750	787	42,398,368
55-59	32	1,966,917	200	10,295,789	40	1,189,423	0	0	804	44,864,085
60-64	136	8,324,199	251	13,103,117	58	1,734,992	0	0	485	25,891,993
65-69	100	5,626,334	76	3,782,124	45	1,331,180	0	0	153	7,853,846
70-74	43	2,272,768	32	1,505,044	62	1,961,543	0	0	39	1,809,789
75-79	39	1,959,292	34	1,975,842	113	3,690,343	0	0	11	461,706
80-84	158	9,685,213	64	3,478,179	184	6,405,840	0	0	28	1,330,738
85-89	110	6,976,400	18	752,804	147	4,948,596	0	0	14	685,030
90-94	31	2,015,045	2	146,988	64	2,039,584	0	0	4	167,914
95-99	4	216,374	0	0	15	350,230	0	0	0	0
100+	0	0	1	17,234	3	30,911	0	0	0	0
Total	654	39,125,974	843	43,148,488	801	25,845,291	1	5,750	3,891	209,549,390

Note that some children's pensions are recorded with spouse pensions when there is a surviving parent.

## 5

## 5. Analysis of Experience

### 5.1 SASS

#### 5.1.1 Rate of Salary Increase

For contributors who were in force at two consecutive 30 June review dates and for whom salaries were available at the two dates, the rates of salary increase over the period 31 December 2005 to 31 December 2008 experienced are shown in the table below.

	<b>Part 1 employers %pa</b>	<b>Part 3 employers %pa</b>	<b>All %pa</b>
Males	5.13%	6.10%	5.32%
Females	4.94%	4.77%	4.88%
All	5.05%	5.21%	5.10%

Excluding contributors during a year over which their salary fell, the actual rates of increase were compared with the rates expected in the long term on the actuarial basis adopted for this valuation. The ratio of actual over expected salary for each age to actual over expected salary for the total group measures the suitability of the promotional scale.

**General Salary Increases**

	<b>Actual Increase Rate %pa</b>	<b>Expected Increase Rate %pa</b>	<b>Excess of actual salary increases over expected %pa</b>
Part 1 Employers			
-Males	5.46%	4.69%	0.76%
-Females	5.15%	4.56%	0.59%
Part 3 Employers			
-Males	6.95%	4.30%	2.64%
-Females	5.72%	4.11%	1.60%
All Employers	5.55%	4.51%	1.05%

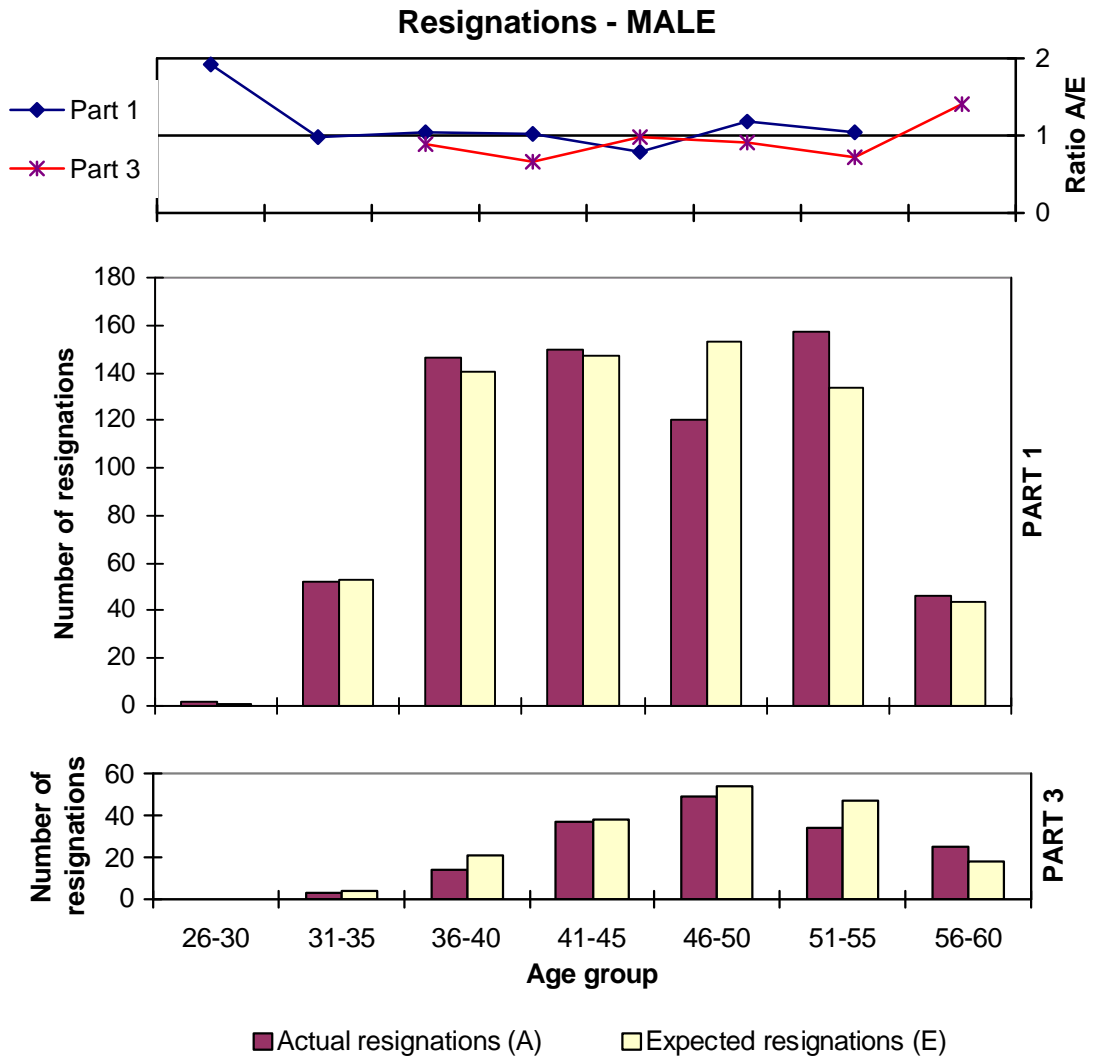
**Ratio of Actual/Expected at Age Shown to Actual/Expected for Total Group**

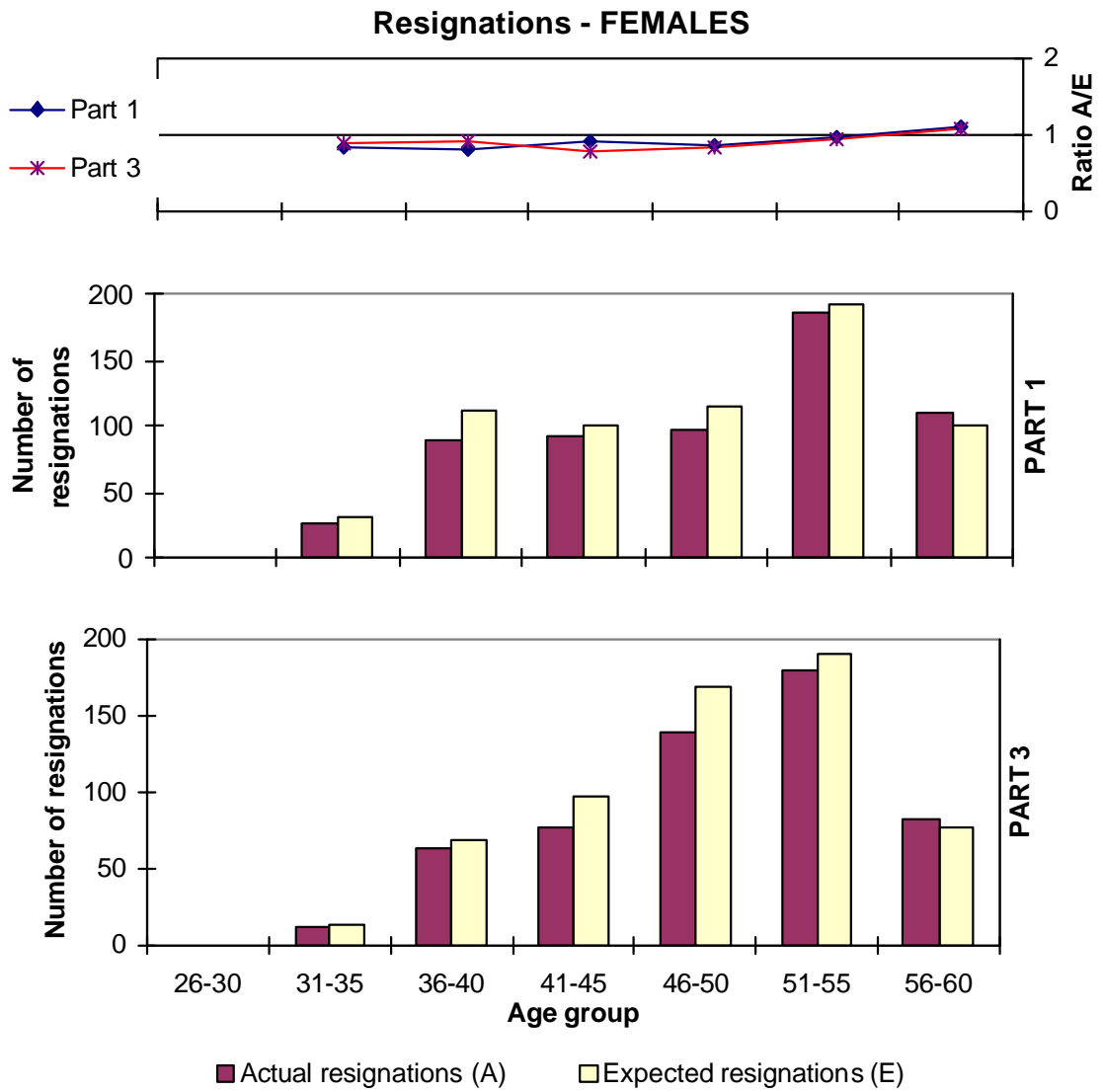
Age	Males		Females	
	Part 1	Part 3	Part 1	Part3
26-30	0.98	-	1.01	-
31-35	0.99	0.99	0.98	0.99
36-40	0.99	0.98	0.99	0.99
41-45	1.00	0.99	1.00	0.99
46-50	1.00	1.00	1.01	1.00
51-55	1.00	1.00	1.00	1.00
56-60	1.00	1.00	1.00	1.00
61-65	1.00	1.00	1.00	1.03

**5.1.2 Rates of Resignation**

In the following tables and graphs, the actual numbers of resignations (A) that occurred in the period 1 July 2005 to 30 April 2009 are compared with the numbers expected (E) under the actuarial basis adopted for this valuation. The final 2 months of the last year have been excluded to minimise the effect of late reporting.

Age group	Males						Females					
	Part 1 Employers			Part 3 Employers			Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E	A	E	A/E	A	E	A/E
26-30	2	1.0	1.92	0	0.0	-	0	0.1	0.00	0	0.0	-
31-35	52	53.1	0.98	3	3.4	0.89	26	31.0	0.84	11	12.4	0.89
36-40	146	140.6	1.04	14	21.3	0.66	90	111.1	0.81	63	68.4	0.92
41-45	150	147.4	1.02	37	37.6	0.98	92	100.6	0.91	76	97.0	0.78
46-50	120	152.8	0.79	49	53.7	0.91	97	114.8	0.85	138	168.2	0.82
51-55	157	133.4	1.18	34	47.4	0.72	186	193.0	0.96	179	190.1	0.94
56-60	46	44.0	1.04	25	17.7	1.41	111	100.9	1.10	82	76.9	1.07
Total	673	672.3	1.00	162	180.9	0.90	602	651.6	0.92	549	613.0	0.90





### 5.1.3 Rates of Preservation

The table below compares the numbers of members who resign and preserve their benefits (A) with the numbers expected to preserve their benefits (E) on the actuarial basis adopted, based on the actual numbers of resignations, over the period 1 July 2005 to 30 June 2009.

Age Group	1 year to 30 June 2006			1 year to 30 June 2007			1 year to 30 June 2008			3 years to 30 June 2008		
	A	E	A/E	A	E	A/E	A	E	A/E	A	E	A/E
Males												
26-30	2	1	2.00	0	0	-	0	0	-	2	1	2.00
31-35	20	17	1.18	13	11	1.18	4	5	0.80	37	33	1.12
36-40	34	34	1.00	32	36	0.89	27	27	1.00	93	97	0.96
41-45	46	46	1.00	39	37	1.05	28	33	0.85	113	116	0.97
46-50	47	44	1.07	38	34	1.12	31	29	1.07	116	106	1.09
51-55	59	51	1.16	52	54	0.96	54	57	0.95	165	161	1.02
56-60	36	37	0.97	29	28	1.04	32	33	0.97	97	97	1.00
Total	244	231	1.06	203	199	1.02	176	182	0.97	623	612	1.02
Females												
26-30	0	0	-	0	0	-	0	0	-	0	0	-
31-35	3	5	0.60	2	3	0.67	1	1	1.00	6	8	0.75
36-40	24	27	0.89	13	11	1.18	8	9	0.89	45	47	0.96
41-45	24	23	1.04	29	24	1.21	18	16	1.13	71	63	1.13
46-50	39	38	1.03	49	41	1.20	27	25	1.08	115	105	1.10
51-55	60	60	1.00	67	66	1.02	53	50	1.06	180	177	1.02
56-60	40	43	0.93	36	37	0.97	28	28	1.00	104	108	0.96
Total	190	196	0.97	196	184	1.07	135	129	1.05	521	508	1.03
Total M&F	434	427	1.02	399	383	1.04	311	311	1.00	1144	1120	1.02

### 5.1.4 Rates of Redundancy

The table below shows the rates experienced in the period 30 June 2005 to 30 April 2009 separately for each year and employer group.

Percentage of Membership over one year who are retrenched								
Age Group	Part 1				Part 3			
	02/03	03/04	04/05	3 yrs	02/03	03/04	04/05	3 yrs
Males	%	%	%	%	%	%	%	%
26-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-35	0.8	0.4	0.0	0.6	0.0	0.0	0.0	0.0
36-40	0.7	1.1	0.5	0.8	0.0	0.0	0.0	0.0
41-45	1.2	1.8	0.6	1.2	0.0	0.1	0.1	0.1
46-50	1.9	1.8	0.8	1.6	0.1	0.1	0.0	0.1
51-55	2.6	2.9	1.3	2.3	0.3	0.2	0.1	0.2
56-60	1.2	1.4	0.6	1.1	0.0	0.1	0.0	0.0
Total	1.5	1.7	0.7	1.4	0.1	0.1	0.0	0.1
Females								
26-30	0.5	0.2	0.0	0.4	0.0	0.0	0.0	0.0
31-35	1.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0
36-40	0.8	0.7	0.0	0.6	0.0	0.1	0.0	0.1
41-45	0.5	0.4	0.0	0.4	0.0	0.1	0.0	0.0
46-50	0.4	0.4	0.1	0.3	0.1	0.0	0.0	0.1
51-55	0.6	0.6	0.0	0.4	0.1	0.1	0.0	0.1
56-60	0.4	0.3	0.0	0.2	0.2	0.2	0.0	0.1
Total	0.6	0.5	0.0	0.4	0.1	0.1	0.0	0.1

### 5.1.5 Rates of Mortality and Disability

In the following tables and graphs, the actual numbers of deaths and disablements (A) that occurred in the period 1 July 2005 to 30 April 2009 are compared with the numbers expected (E) on the valuation basis adopted for this valuation. Only contributors covered for additional benefits were considered. The final 2 months of the last year were ignored in order to minimise the effect of late reporting.

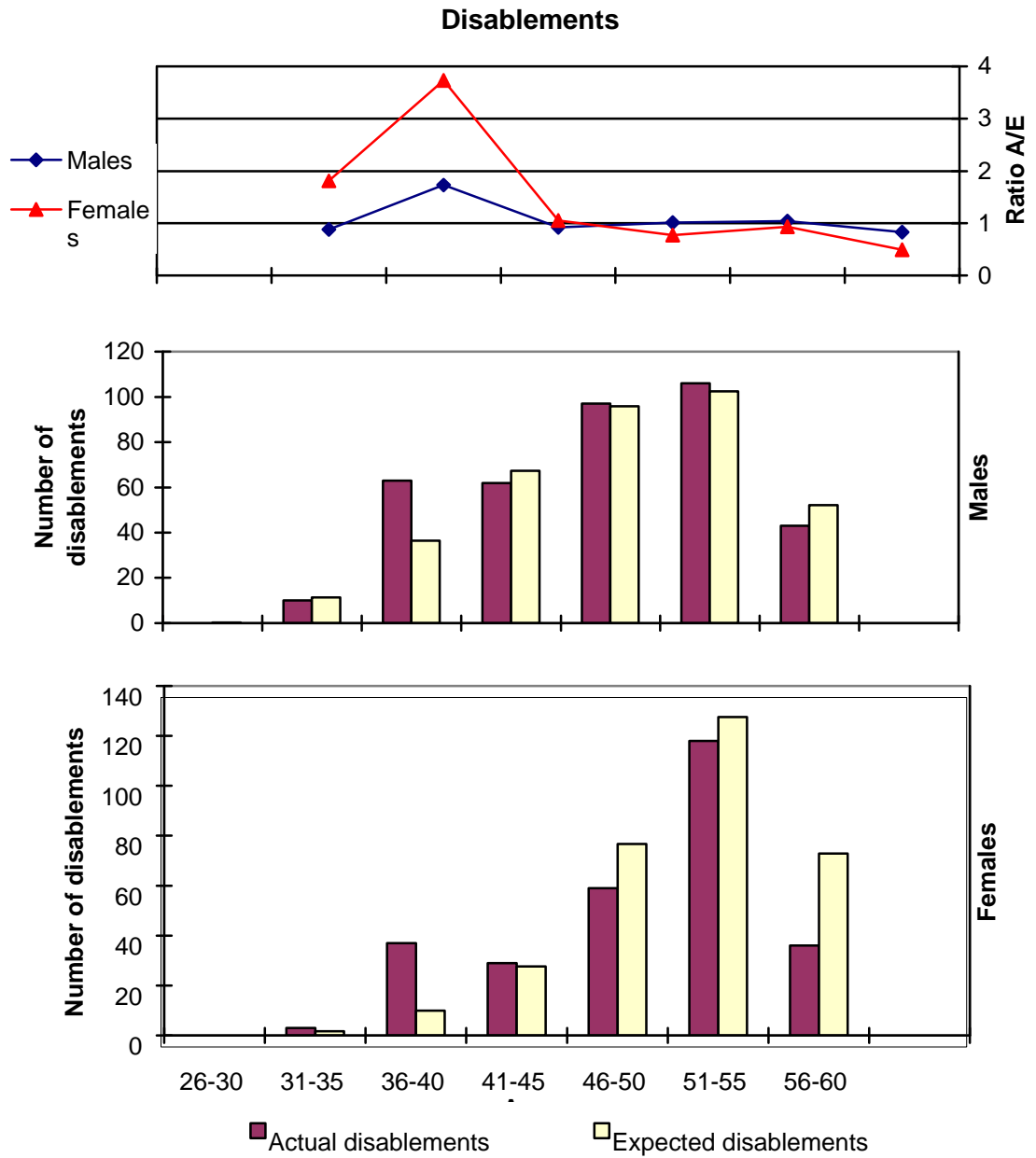
**Deaths**

Age	Males			Females		
	A	E	A/E	A	E	A/E
26-30	0	0.0	-	0	0.2	-
31-35	0	1.2	-	3	1.3	2.28
36-40	7	4.2	1.65	2	2.8	0.71
41-45	16	7.2	2.22	5	5.5	0.90
46-50	17	13.1	1.30	16	13.4	1.19
51-55	20	18.5	1.08	17	20.5	0.83
56-60	28	24.0	1.17	19	16.3	1.16
61-65	18	13.8	1.30	40	43.3	0.92
Total	106	82.0	1.29	34	26.5	1.28

Graphs for mortality results are shown for the whole Pooled Fund under SANCS (see section 5.2.3)

**Disabilities**

Age	Disabilities			Partial Disabilities			All Disabilities		
	A	E	A/E	A	E	A/E	A	E	A/E
<b>Males</b>									
26-30	0	0.0	0.00	0	0.1	0.00	0	0.2	0.00
31-35	0	1.7	0.00	10	9.6	1.04	10	11.4	0.88
36-40	10	7.3	1.37	53	29.1	1.82	63	36.4	1.73
41-45	13	13.3	0.98	49	54.0	0.91	62	67.4	0.92
46-50	25	22.4	1.12	72	73.5	0.98	97	95.9	1.01
51-55	42	41.2	1.02	64	61.2	1.05	106	102.4	1.04
56-60	17	21.5	0.79	26	30.5	0.85	43	52.1	0.83
Total	107	107.5	1.00	274	258.2	1.06	381	365.6	1.04
<b>Females</b>									
26-30	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00
31-35	0	0.3	0.00	3	1.3	2.27	3	1.7	1.81
36-40	8	2.4	3.39	29	7.6	3.83	37	9.9	3.73
41-45	5	6.5	0.77	24	21.1	1.14	29	27.7	1.05
46-50	18	21.0	0.86	41	55.8	0.74	59	76.7	0.77
51-55	39	57.4	0.68	79	70.1	1.13	118	127.5	0.93
56-60	10	34.0	0.29	26	39.0	0.67	36	72.9	0.49
Total	80	121.6	0.66	202	194.8	1.04	282	316.4	0.89



### 5.1.6 Rates of Retirement

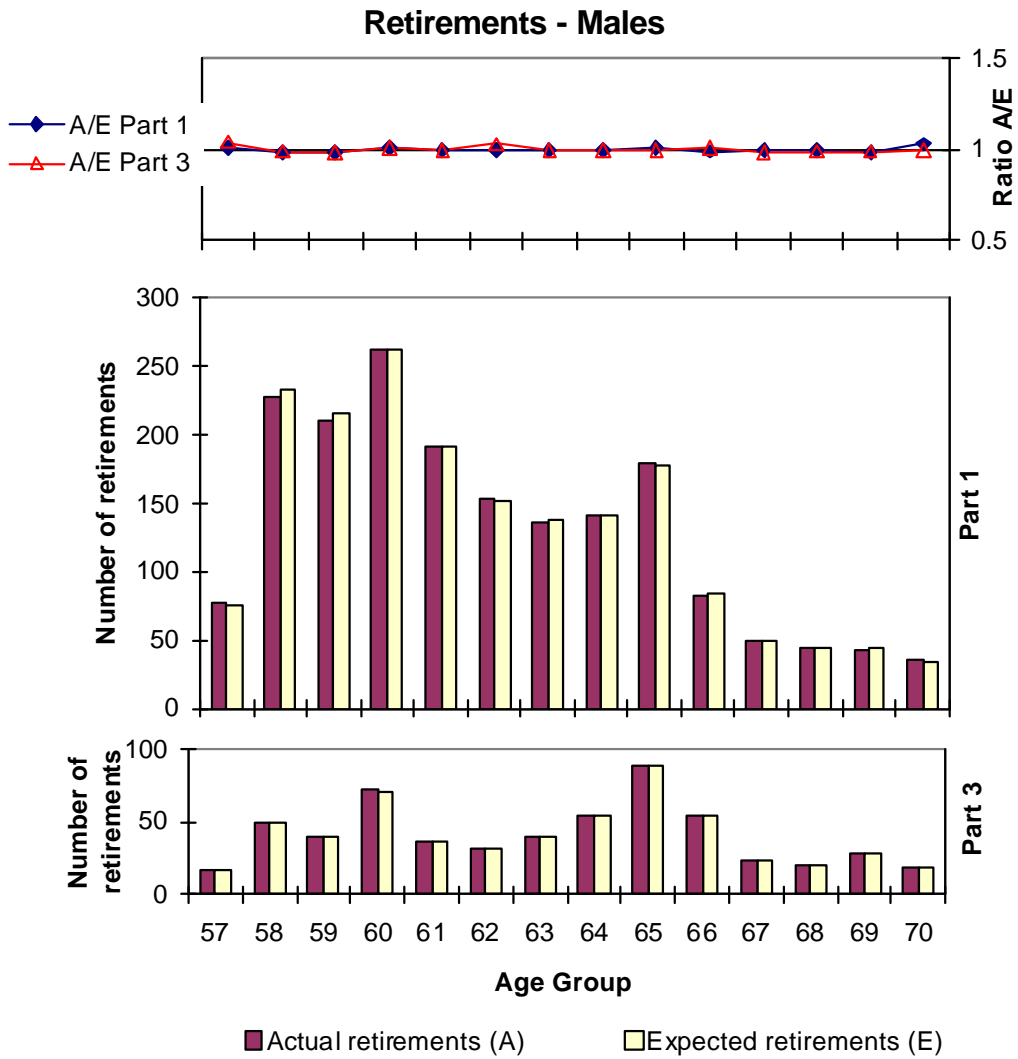
The actual numbers (A) of retirements in the period 1 July 2005 to 30 April 2009 are compared with the numbers expected (E) under the valuation basis over the same period. The final 2 months of the last year has been omitted from the analysis to minimise the effect of late reporting.

#### Males

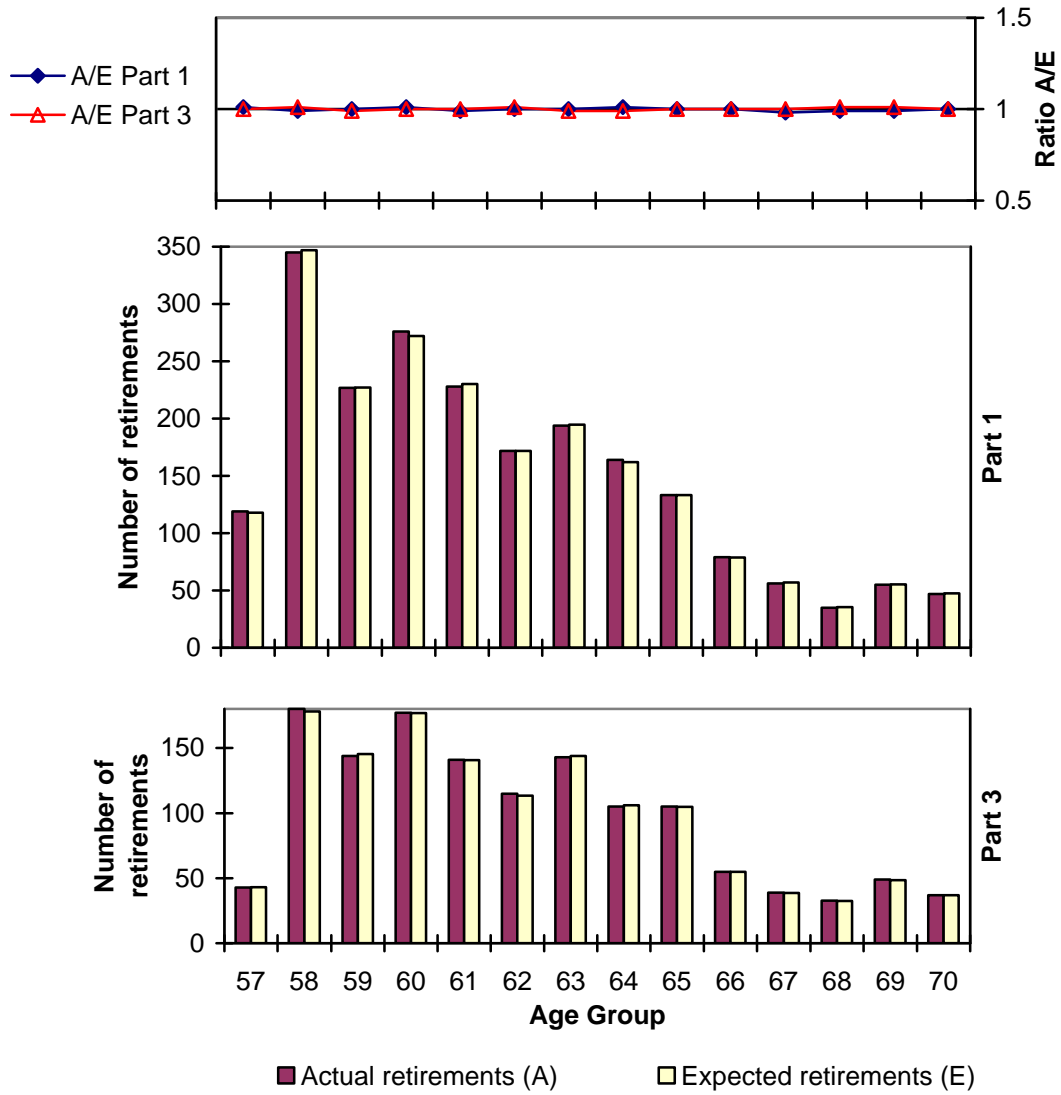
Age	Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E
57	77	76.3	1.01	17	16.4	1.04
58	228	232.9	0.98	49	49.6	0.99
59	211	215.0	0.98	39	39.8	0.98
60	263	261.6	1.01	72	71.6	1.01
61	192	191.4	1.00	36	36.1	1.00
62	153	152.4	1.00	32	31.1	1.03
63	137	137.5	1.00	40	40.1	1.00
64	142	141.8	1.00	54	54.0	1.00
65	180	178.0	1.01	89	89.2	1.00
66	83	83.8	0.99	55	54.3	1.01
67	50	50.2	1.00	23	23.4	0.98
68	44	44.0	1.00	20	20.1	0.99
69	43	44.0	0.98	28	28.3	0.99
70	35	34.0	1.03	19	19.0	1.00
Total	1838	1,842.8	1.00	577	573.0	1.00

#### Females

Age	Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E
57	119	117.9	1.01	43	43.1	1.00
58	345	346.8	0.99	180	178.1	1.01
59	227	227.3	1.00	144	145.3	0.99
60	276	272.1	1.01	177	176.7	1.00
61	228	230.2	0.99	141	140.6	1.00
62	172	172.0	1.00	115	113.5	1.01
63	194	194.8	1.00	143	143.9	0.99
64	164	162.2	1.01	105	106.0	0.99
65	133	133.2	1.00	105	104.8	1.00
66	79	78.7	1.00	55	54.9	1.00
67	56	56.9	0.98	39	38.9	1.00
68	35	35.4	0.99	33	32.7	1.01
69	55	55.3	0.99	49	48.5	1.01
70	47	47.0	1.00	37	37.0	1.00
Total	2,130	2,129.8	1.00	1,366	1,363.9	1.00



### Retirements - Females



### 5.1.7 Pensioner Experience

### 5.1.8 Members Choosing Pension Benefits

The table below shows the percentage of members eligible for pension type benefits who elected to take the pension in the period 1 July 2005 to 30 June 2009 compared with the percentage assumed in the valuation.

	<b>Actual percentage electing pension</b>	<b>Assumed percentage electing pension</b>
Invalidity	37.6%	20%
Death	0.0%	20%
Retirement	22.4%	20%
<b>Total</b>	<b>22.2%</b>	<b>20%</b>

### 5.1.9 Mortality of Pensioners

The following tables compare the actual number of pensioners dying (A) (including those assumed to have died although the death has not been confirmed) in the period 1 July 2005 to 30 June 2009 with those expected to die (E) under the mortality assumed for the category of pensioner in the valuation basis.

#### Retirement and Spouse Pensioners

Age group	Males			Females		
	Actual number of deaths (A)	Expected deaths (E)	A/E	Actual number of deaths (A)	Expected deaths (E)	A/E
55-59	0	0.0	0.00	0	0.0	0.00
60-64	0	1.8	0.00	1	1.2	0.85
65-69	7	4.0	1.75	3	2.9	1.04
70-74	1	3.8	0.26	8	2.7	2.94
75-79	20	10.7	1.87	18	17.3	1.04
80-84	91	74.5	1.22	101	92.0	1.10
85-89	172	155.3	1.11	235	215.7	1.09
90-94	179	177.6	1.01	308	317.9	0.97
95-99	54	64.4	0.84	163	169.1	0.96
100+	9	9.0	1.00	33	34.0	0.97
Total	533	501.1	1.06	870	852.9	1.02

### 5.1.10 Deferred Membership

The table below shows the rates of early withdrawal experienced by deferred members in the period 30 June 2006 to 30 June 2009.

Percentage of deferred members who withdraw per year			
Age group	Males	Females	Combined
	%	%	%
31 - 35	4.06	5.66	4.69
36 - 40	2.16	1.47	1.73
41 - 45	1.69	1.07	1.32
46 - 50	1.63	0.73	1.11
51 - 55	1.73	0.71	1.14
56 - 60	1.48	0.56	0.91
Total	1.76	0.91	1.26

## 5.2 SANCS

### 5.2.1 Rate of Salary Increase

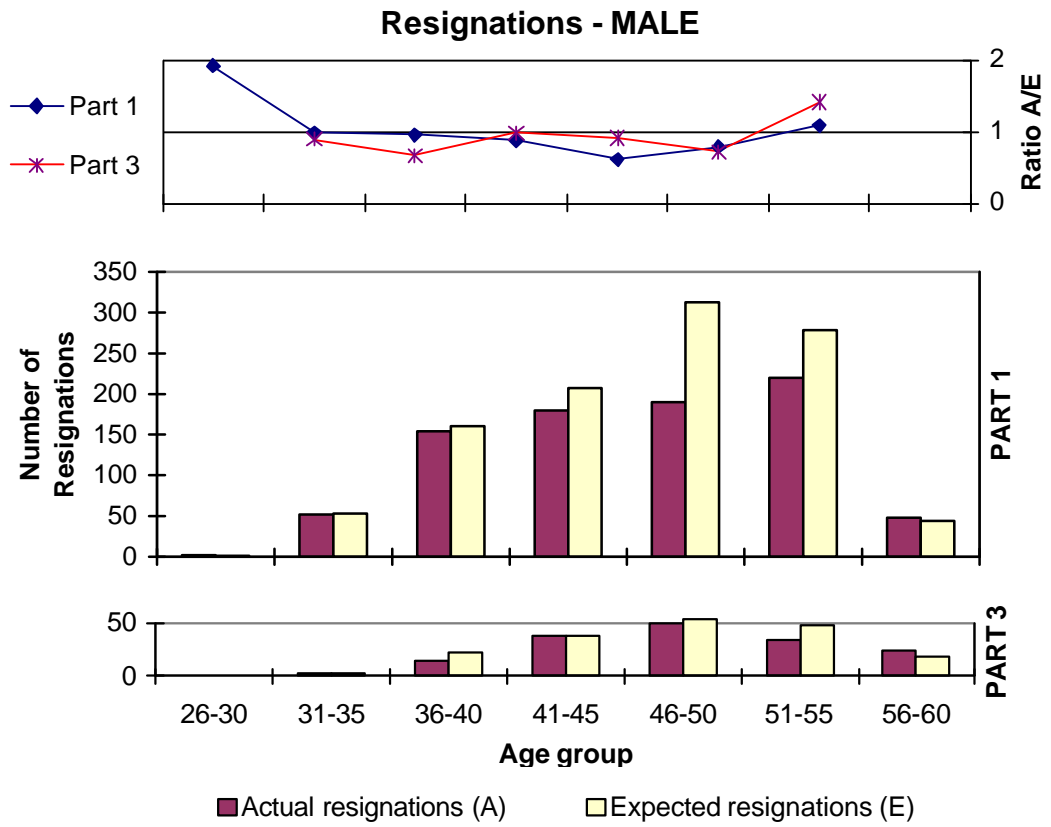
For contributors who were in force at the three consecutive 30 June review dates and for whom salaries were available at each date, the rates of salary increase over the period 31 December 2006 to 31 December 2008 experienced are shown in the table below

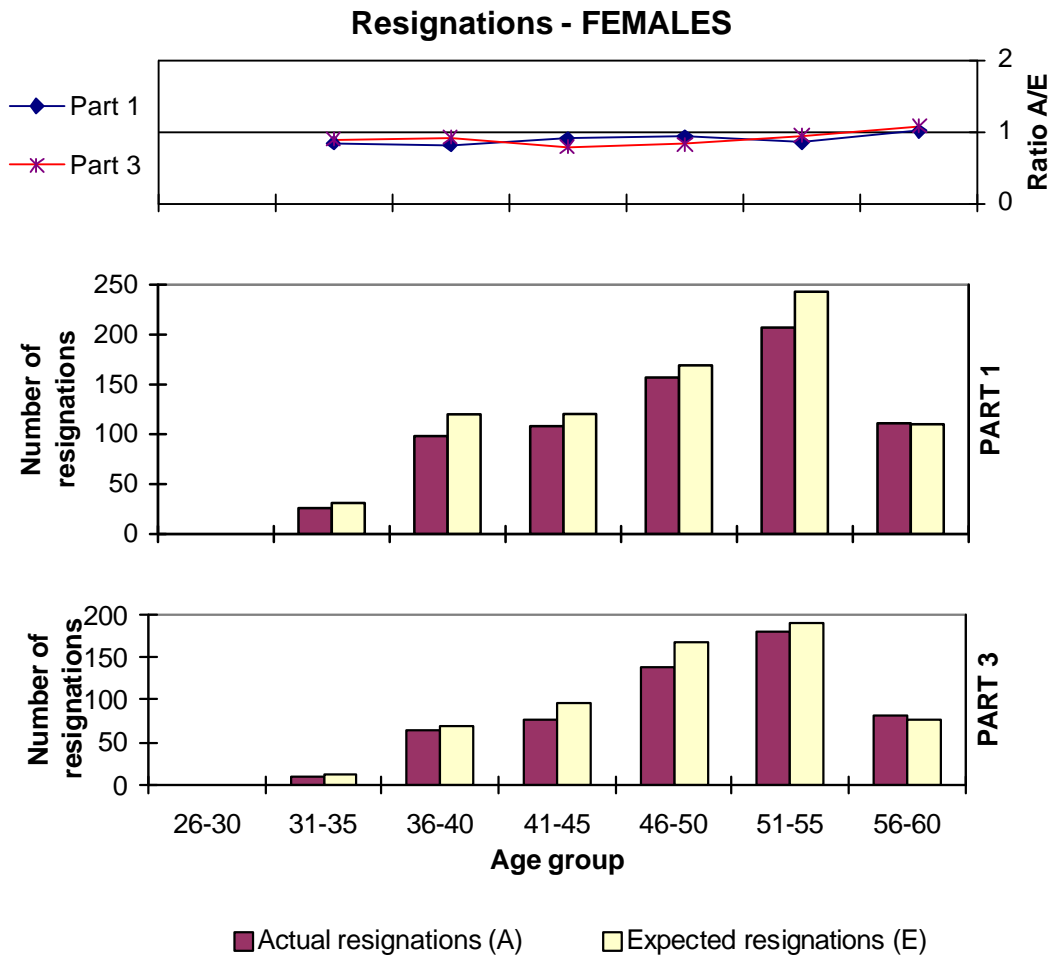
	Part 1 employers %pa	Part 3 employers %pa	All %pa
Males	4.96%	6.10%	5.09%
Females	4.83%	4.77%	4.81%
All	4.91%	5.21%	4.97%

### 5.2.2 Rates of Resignation

In the following table and graphs, the actual numbers of resignations (A) that occurred in the period 1 July 2005 to 30 April 2008 are compared with the numbers expected (E) under the actuarial basis adopted for this valuation. The final 2 months of the last year have been excluded to minimise the effect of late reporting. Resignations include members taking cash benefits and those preserving the benefit.

Age group	Males						Females					
	Part 1 Employers			Part 3 Employers			Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E	A	E	A/E	A	E	A/E
26-30	2	1.0	1.92	0	0.0	-	0	0.1	0.00	0	0.0	-
31-35	52	53.1	0.98	3	3.4	0.89	26	31.0	0.84	11	12.4	0.89
36-40	154	160.4	0.96	14	21.3	0.66	98	120.3	0.81	63	68.4	0.92
41-45	180	207.3	0.87	37	37.6	0.98	108	120.6	0.90	76	97.0	0.78
46-50	190	312.6	0.61	49	53.7	0.91	157	169.3	0.93	138	168.2	0.82
51-55	220	278.4	0.79	34	47.4	0.72	207	242.8	0.85	179	190.1	0.94
56-60	48	44.0	1.09	25	17.7	1.41	111	110.0	1.01	82	76.9	1.07
Total	846	1,056.8	0.80	162	180.9	0.90	707	794.1	0.89	549	613.0	0.90





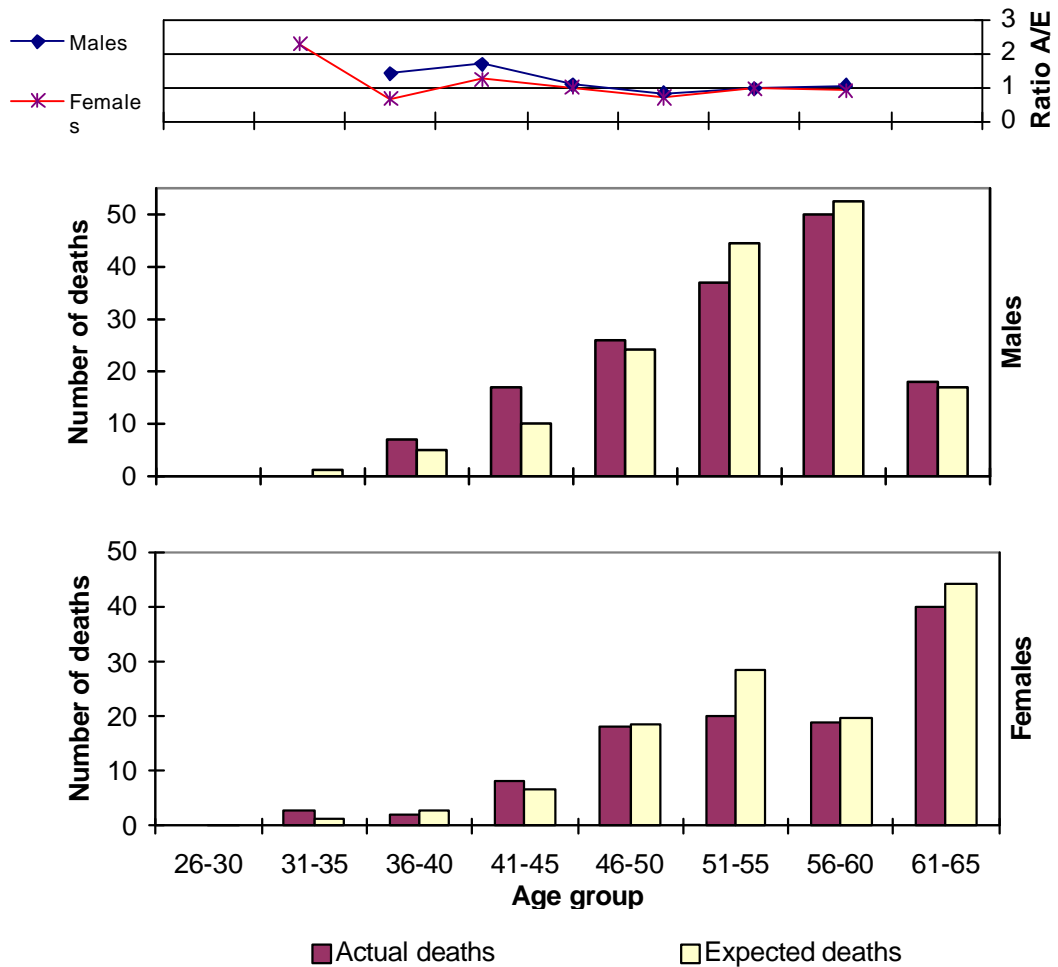
### 5.2.3 Rates of Mortality and Disability

In the following tables and graphs, the actual numbers of deaths and disablements (A) that occurred in the period 1 July 2005 to 30 April 2008 are compared with the numbers expected (E) on the valuation basis adopted for this valuation. The final 2 months of the last year were ignored in order to minimise the effect of late reporting.

#### Deaths

Age	Males			Females		
	A	E	A/E	A	E	A/E
26-30	0	0.0	-	0	0.2	-
31-35	0	1.2	-	3	1.3	2.28
36-40	7	5.0	1.40	2	3.0	0.67
41-45	17	10.1	1.68	8	6.5	1.23
46-50	26	24.2	1.08	18	18.4	0.98
51-55	37	44.5	0.83	20	28.5	0.70
56-60	50	52.5	0.95	19	19.7	0.96
61-65	18	17.0	1.06	40	44.0	0.91
Total	155	154.5	1.00	42	44.7	0.94

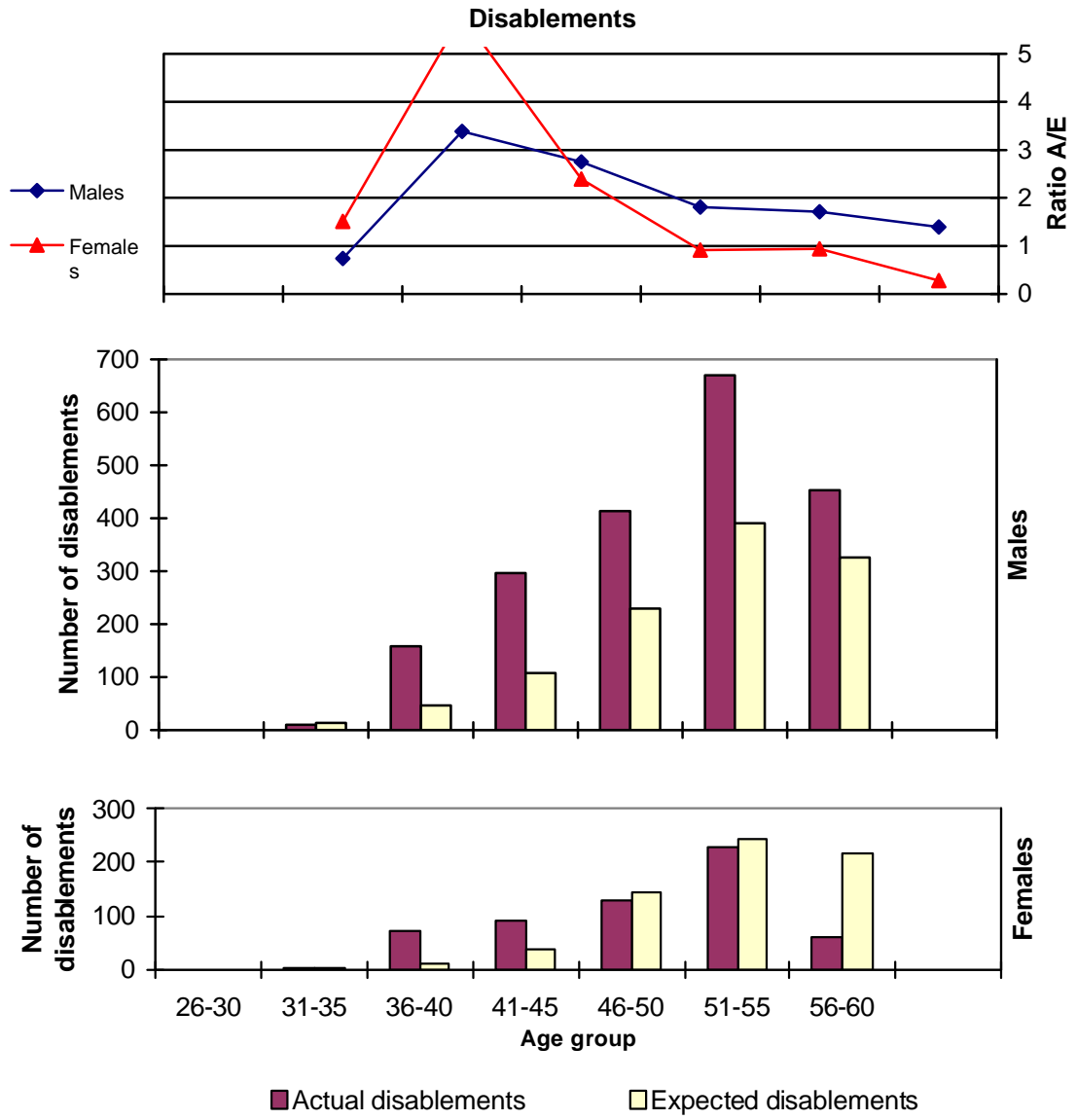
**Deaths**



**Disablements**

Age	Males			Females		
	A	E	A/E	A	E	A/E
26-30	0	0.2	-	0	0.0	-
31-35	10	13.5	0.74	3	2.0	1.51
36-40	158	46.7	3.39	71	12.2	5.80
41-45	296	107.5	2.75	90	37.6	2.39
46-50	414	229.3	1.81	130	143.3	0.91
51-55	670	390.9	1.71	227	242.5	0.94
56-60	453	326.2	1.39	60	213.9	0.28
Total	2,005	1,114.2	1.80	581	651.5	0.89

Note: The SANCS experience includes SASS and SSS as well as PSS. The assumed rates of disablement are based on SASS and SSS experience only as PSS membership is rapidly declining. As PSS experiences much higher rates of disablement, the A/E ratio is higher in the combined group, especially for males.



### 5.2.4 Rates of Retirement

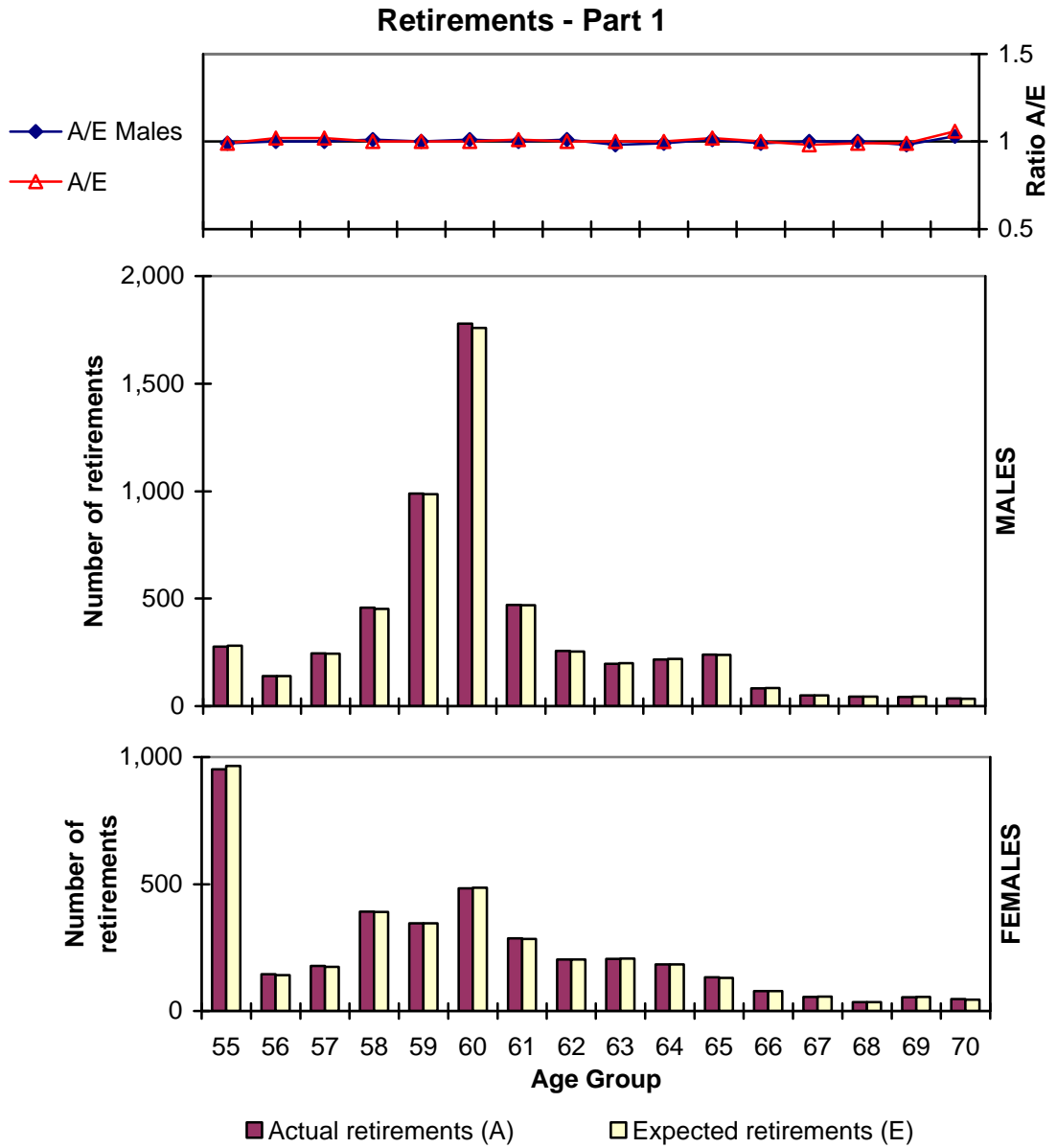
The actual numbers (A) of retirements in the period 1 July 2005 to 30 April 2008 are compared with the numbers expected (E) under the valuation basis over the same period. The final 2 months of the last year has been omitted from the analysis to minimise the effect of late reporting.

#### Males

Age	Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E
55	277	280.9	0.99			
56	139	139.2	1.00			
57	245	244.0	1.00	17	16.4	1.04
58	458	451.3	1.01	49	49.6	0.99
59	989	986.2	1.00	39	39.8	0.98
60	1,779	1,759.3	1.01	72	71.6	1.01
61	470	468.5	1.00	36	36.1	1.00
62	256	253.6	1.01	32	31.1	1.03
63	197	200.0	0.98	40	40.1	1.00
64	217	220.1	0.99	54	54.0	1.00
65	239	237.4	1.01	89	89.2	1.00
66	83	83.8	0.99	55	54.3	1.01
67	50	50.2	1.00	23	23.4	0.98
68	44	44.0	1.00	20	20.1	0.99
69	43	44.0	0.98	28	28.3	0.99
70	35	34.0	1.03	19	19.0	1.00
Total	5,521	5,496.4	1.00	577	573.0	1.00

#### Females

Age	Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E
55	952	965.6	0.99			
56	145	141.8	1.02			
57	178	174.7	1.02	43	43.1	1.00
58	392	390.9	1.00	180	178.1	1.01
59	346	346.4	1.00	144	145.3	0.99
60	484	485.9	1.00	177	176.7	1.00
61	287	283.8	1.01	141	140.6	1.00
62	203	203.2	1.00	115	113.5	1.01
63	206	206.8	1.00	143	143.9	0.99
64	184	183.9	1.00	105	106.0	0.99
65	133	130.0	1.02	105	104.8	1.00
66	79	78.7	1.00	55	54.9	1.00
67	56	56.9	0.98	39	38.9	1.00
68	35	35.4	0.99	33	32.7	1.01
69	55	55.3	0.99	49	48.5	1.01
70	47	44.5	1.06	37	37.0	1.00
Total	3,782	3,783.6	1.00	1,366	1,363.9	1.00



Note: For Part 3 graphs see SASS results in section 5.1.6

## 5.3 SSS

### 5.3.1 Rate of Salary Increase

For contributors who remained in force over the three year investigation period and for whom salaries were available at each review date, the rates of salary increase over the period 30 June 2006 to 30 June 2009 experienced are shown in the table below.

	<b>2006/2007</b> %	<b>2007/2008</b> %	<b>2008/2009</b> %	<b>3 years</b> %
Males	4.96%	4.80%	4.16%	4.65%
Females	4.76%	4.65%	4.11%	4.51%
Females (R55)	4.59%	4.68%	4.27%	4.52%
All	4.87%	4.76%	4.17%	4.61%

Excluding contributors during a year over which their salary fell, the actual rates of increase were compared with the rates expected in the long term on the assumptions adopted for this valuation. The ratio of actual over expected salary for each age to actual over expected salary for the total group measures the suitability of the promotional scale.

**General Salary Increases**

	<b>Actual Increase Rate %</b>	<b>Expected Increase Rate %</b>	<b>Excess of actual salary increases over expected %pa</b>
-Males	4.81%	4.09%	0.71%
-Females	4.72%	4.19%	0.53%
All	4.76%	4.12%	0.65%

**Ratio of Actual/Expected at Age Shown to Actual/Expected for Total Group**

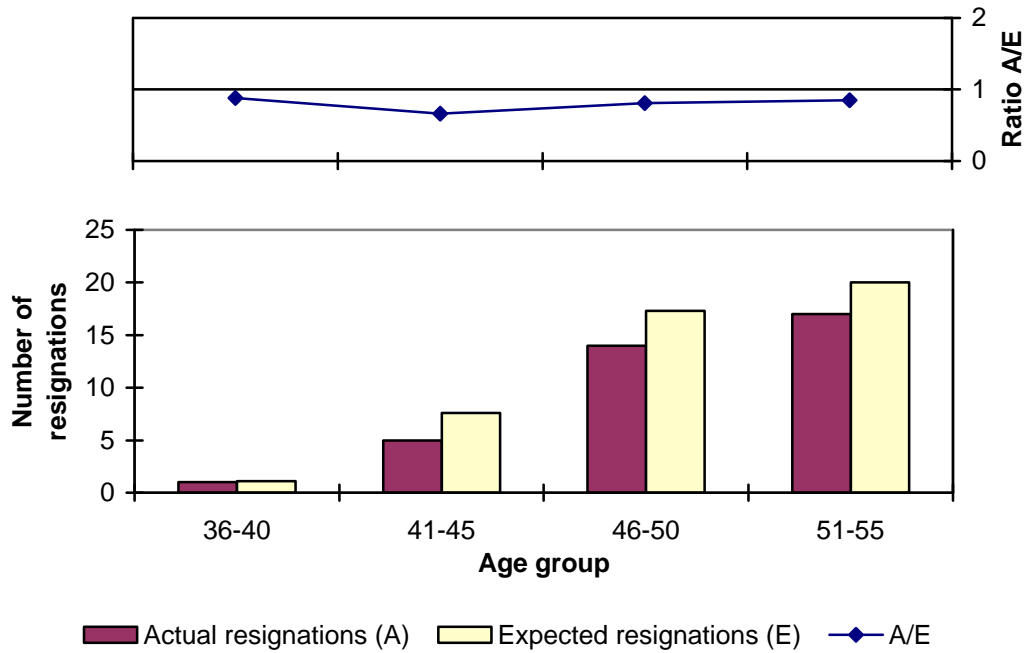
<b>Age</b>	<b>Males</b>	<b>Females</b>
36-40	0.99	0.99
41-45	1.00	1.00
46-50	1.00	1.00
51-55	1.00	1.00
56-60	1.00	1.00
60-65	1.00	1.00

**5.3.2 Rates of Cash Resignation**

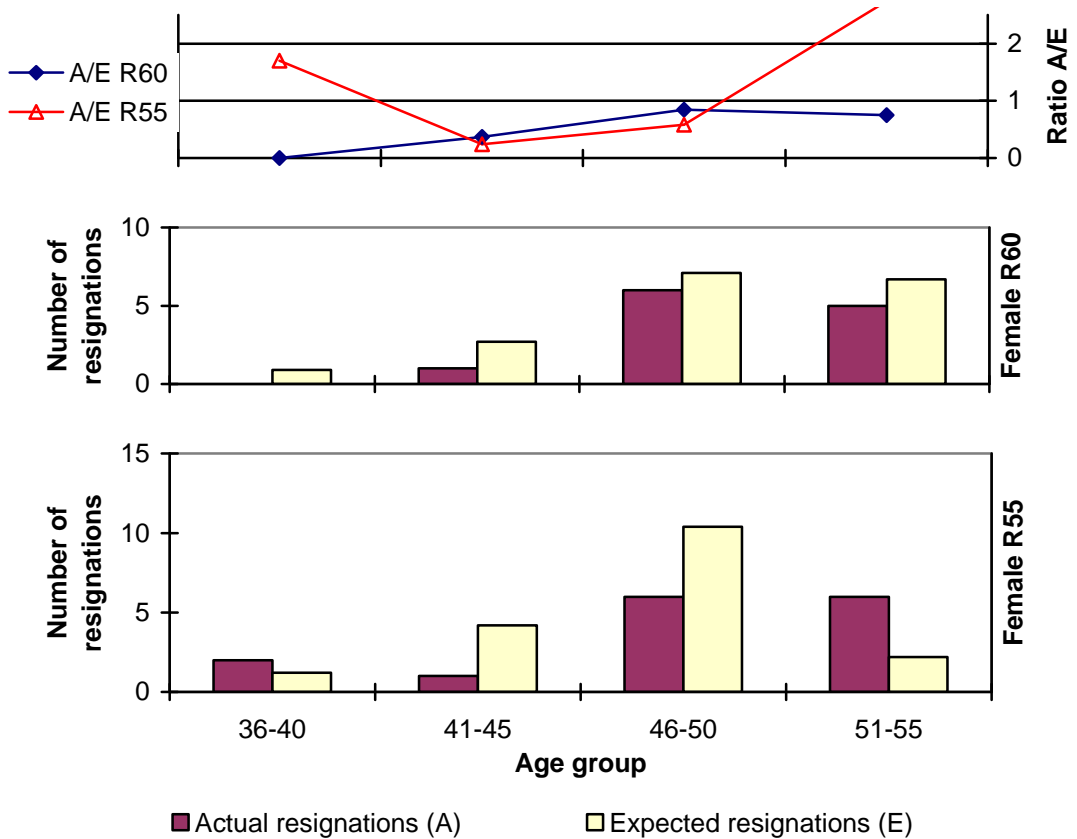
In the following table, the actual numbers of resignations (A) that occurred in the period 1 July 2005 to 30 April 2008 (cash benefits only) are compared with the numbers expected (E) under the actuarial basis adopted for this valuation.

<b>Age</b>	<b>Males</b>			<b>Females (R60)</b>			<b>Females (R55)</b>		
	<b>A</b>	<b>E</b>	<b>A/E</b>	<b>A</b>	<b>E</b>	<b>A/E</b>	<b>A</b>	<b>E</b>	<b>A/E</b>
36-40	1	1.1	0.88	0	0.9	0.00	2	1.2	1.70
41-45	5	7.6	0.66	1	2.7	0.37	1	4.2	0.24
46-50	14	17.3	0.81	6	7.1	0.84	6	10.4	0.58
51-55	17	20.0	0.85	5	6.7	0.75	6	2.2	2.74
<b>Total</b>	<b>37</b>	<b>46.0</b>	<b>0.80</b>	<b>12</b>	<b>17.4</b>	<b>0.69</b>	<b>15</b>	<b>18.0</b>	<b>0.84</b>

### Resignations - Males



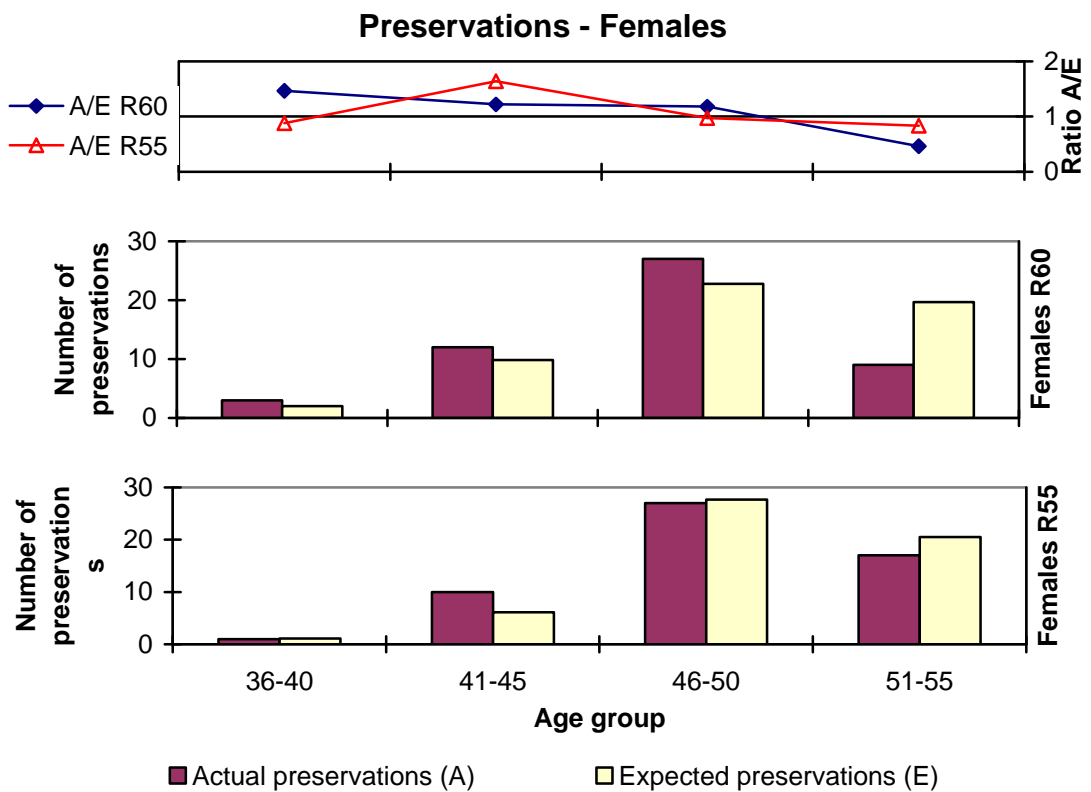
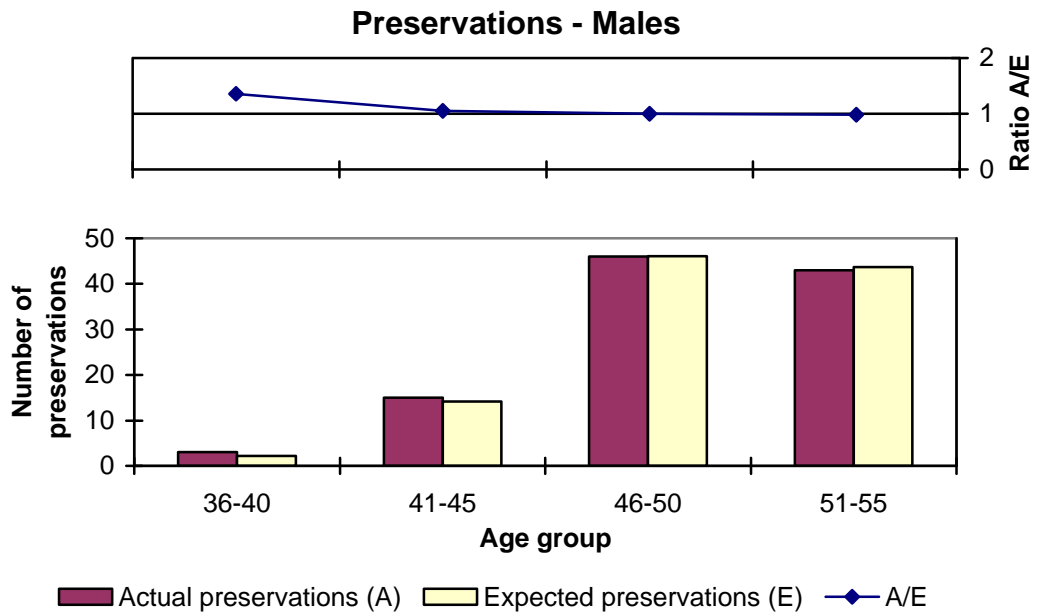
### Resignations - Females



### 5.3.3 Rates of Preservation

The table and graphs below compare the numbers of members who leave (both resignations and retrenchments) and preserve their benefits (A) with the numbers expected to preserve their benefits (E) on the actuarial basis adopted, over the period 1 July 2005 to 30 April 2008. Again experience in the period 30 April 2008 to 30 June 2008 is omitted.

Age	Males			Females (R60)			Females (R55)		
	A	E	A/E	A	E	A/E	A	E	A/E
36-40	3	2.2	1.36	3	2.0	1.47	1	1.1	0.88
41-45	15	14.2	1.05	12	9.8	1.22	10	6.1	1.64
46-50	46	46.1	1.00	27	22.8	1.18	27	27.7	0.97
51-55	43	43.7	0.98	9	19.7	0.46	17	20.5	0.83
Total	107	106.2	1.01	51	54.3	0.94	55	55.4	0.99



### 5.3.4 Rates of Redundancy

The table below shows the rates experienced in the period 30 June 2005 to 30 April 2008 separately for each year and for the three year period. Note that SSS redundancies exclude those who are retrenched but elect to preserve their benefit. Including these increases the redundancy rates by about 0.3-0.5%.

Age Group	Percentage of Membership over one year who are retrenched			
	05/06	06/07	07/08	3 yrs
Males	%	%	%	%
36-40	0.8	0.0	0.0	0.4
41-45	0.0	0.4	0.0	0.1
46-50	0.0	0.0	0.0	0.0
51-55	0.1	0.1	0.0	0.1
56-60	0.0	0.0	0.0	0.0
Total	0.0	0.1	0.0	0.0
Females				
36-40	0.0	0.0	0.0	0.0
41-45	0.2	0.1	0.2	0.2
46-50	0.1	0.0	0.0	0.0
51-55	0.1	0.0	0.0	0.0
56-60	0.0	0.0	0.0	0.0
Total	0.1	0.0	0.0	0.0

### 5.3.5 Rates of Mortality and Disability

In the following tables, the actual numbers of deaths and ill-health retirements (A) that occurred in the period 1 July 2005 to 30 April 2008 are compared with the numbers expected (E) on the valuation basis adopted for this valuation.

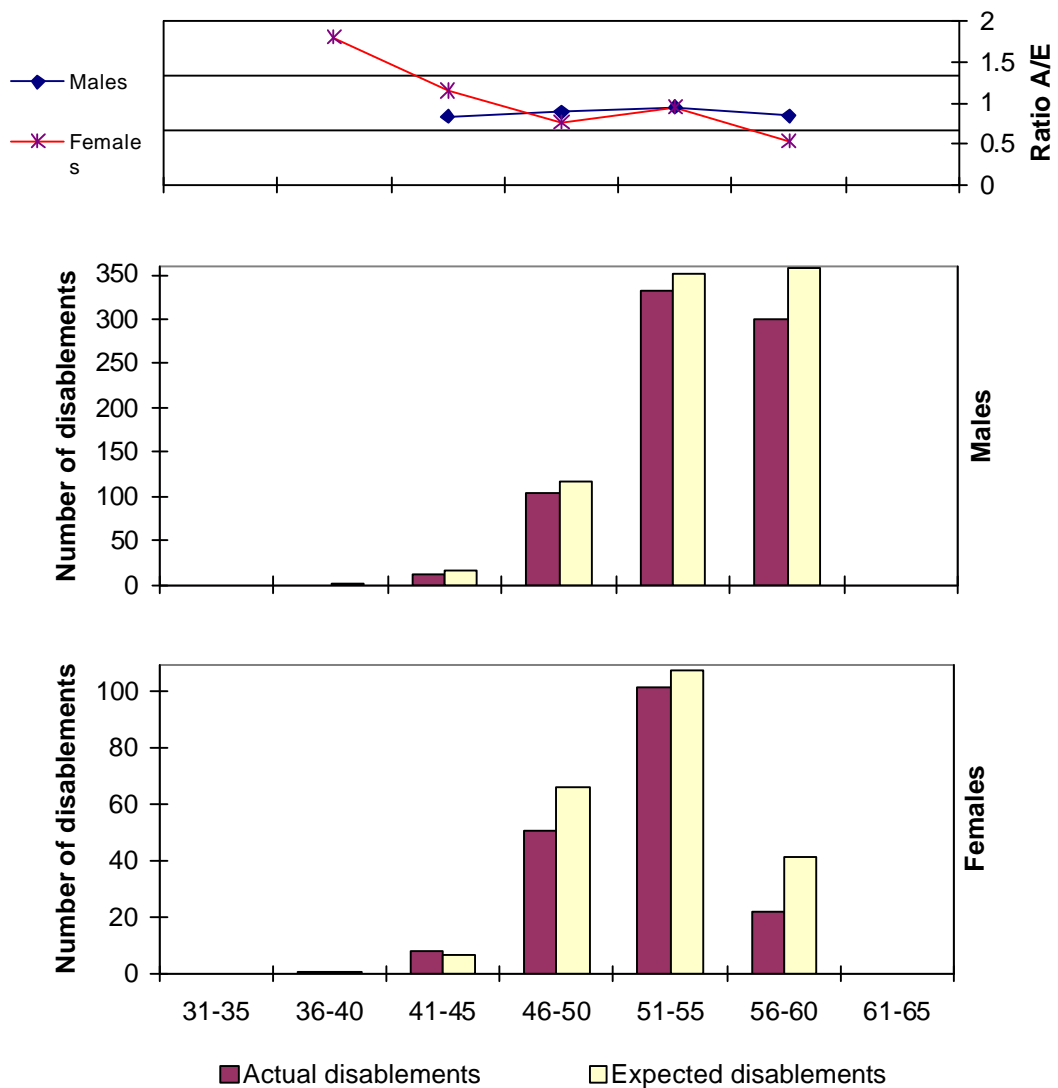
#### Males

Age	Deaths			Disabilities		
	A	E	A/E	A	E	A/E
31-35	0	0.0	-	0	0	-
36-40	0	0.1	-	0	1.1	-
41-45	0	1.3	-	13	15.6	0.83
46-50	5	9.4	0.53	105	117.4	0.89
51-55	16	24.5	0.65	332	350.5	0.95
56-60	19	27.7	0.69	299	357.6	0.84
61-65	0	3.1	-			
Total	40	66.1	0.61	749	842.2	0.89

**Females**

Age	Deaths			Disabilities		
	A	E	A/E	A	E	A/E
31-35	0	0.0	-	0	0.0	-
36-40	0	0.1	-	1	0.6	1.80
41-45	2	0.8	2.49	8	7.0	1.15
46-50	2	4.8	0.41	51	66.5	0.77
51-55	3	7.9	0.38	102	107.7	0.95
56-60	0	3.4	-	22	41.2	0.53
61-65	0	0.7	-			
Total	7	17.8	0.39	184	223.0	0.83

**Disabilities**



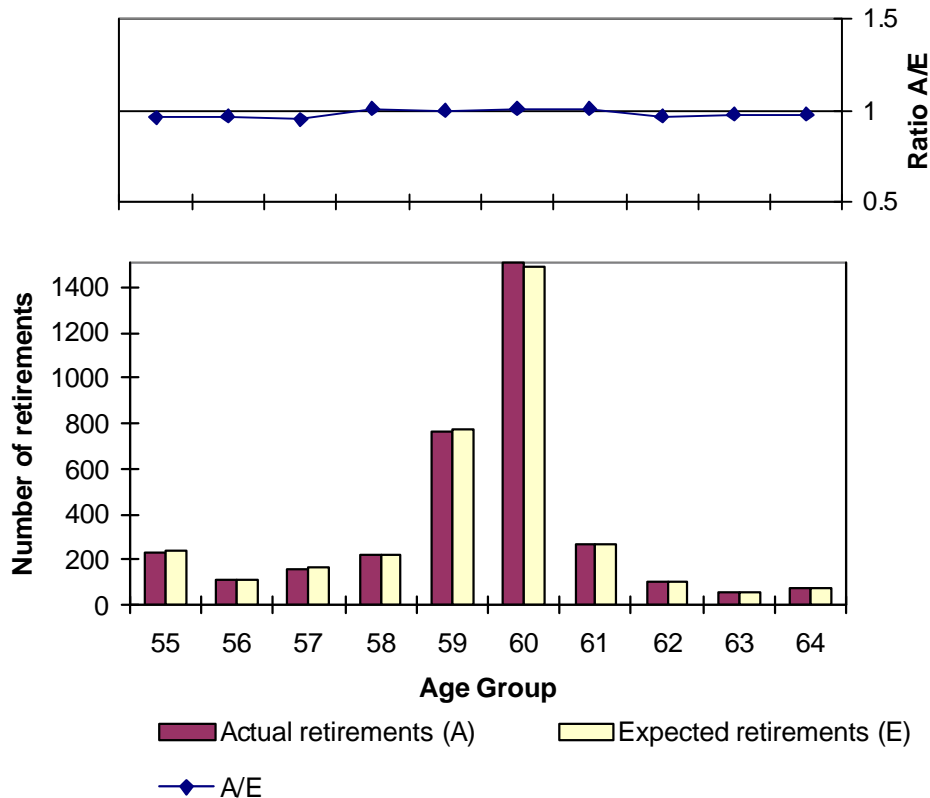
Note: Graphs for mortality experience are shown in section 5.2.3 for the combined Pooled Fund.

### 5.3.6 Rates of Retirement

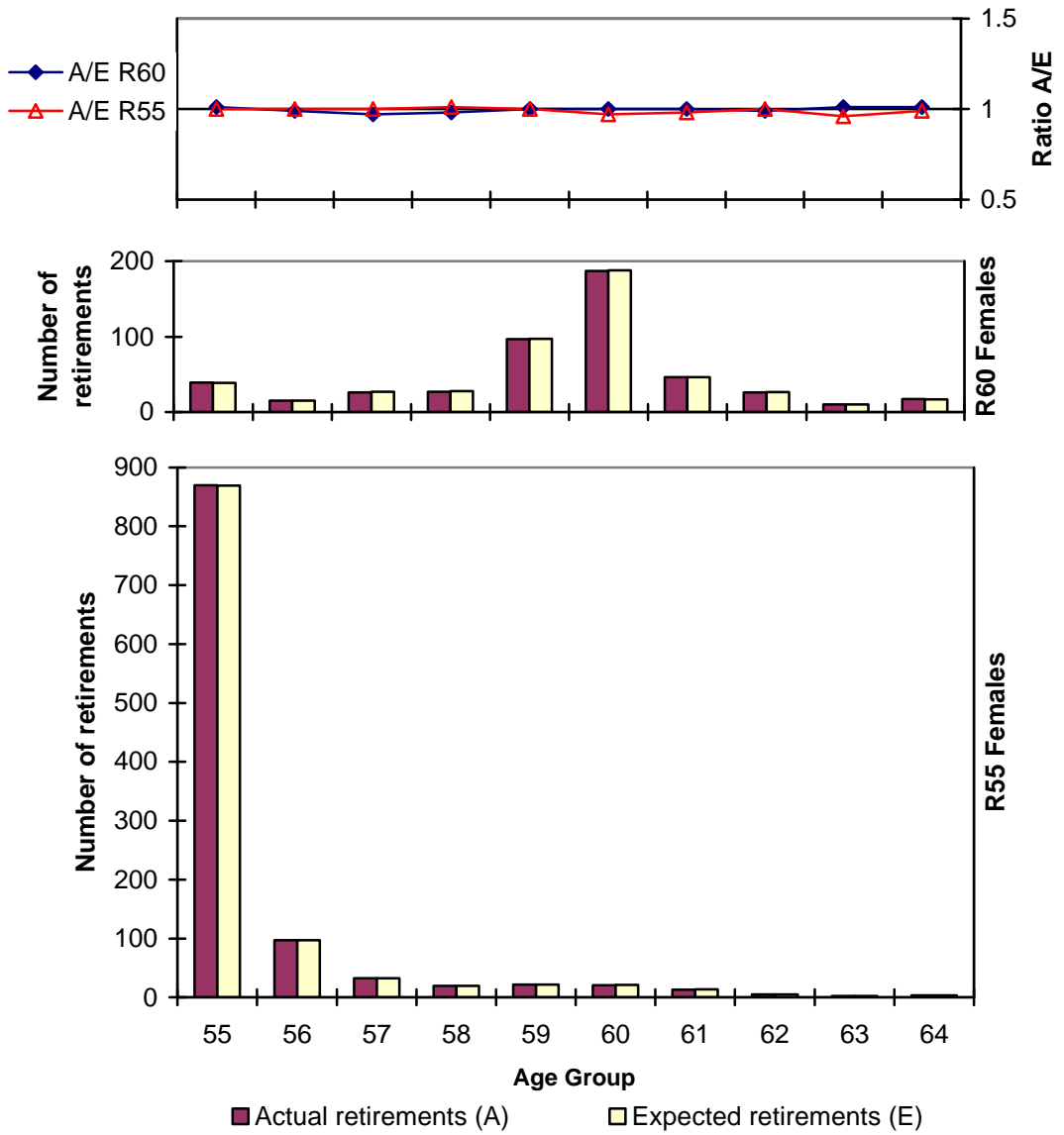
In the following tables, the actual numbers of retirements (A) that occurred in the period 1 July 2005 to 30 April 2008 are compared with the numbers expected (E) over the same period on the valuation basis adopted for this valuation.

Age	Males			Females R60			Females R55		
	A	E	A/E	A	E	A/E	A	E	A/E
55	227	237.3	0.96	39	38.4	1.01	870	869.6	1.00
56	113	116.5	0.97	15	15.2	0.99	97	97.2	1.00
57	155	164.0	0.95	26	26.9	0.97	33	32.9	1.00
58	222	219.9	1.01	27	27.6	0.98	20	19.8	1.01
59	766	769.4	1.00	97	97.3	1.00	22	22.1	1.00
60	1,504	1,492.7	1.01	187	187.7	1.00	21	21.6	0.97
61	272	268.7	1.01	46	46.1	1.00	13	13.2	0.98
62	101	104.5	0.97	26	26.3	0.99	5	5.0	1.00
63	58	59.3	0.98	10	9.9	1.01	2	2.1	0.96
64	75	76.4	0.98	17	16.9	1.01	3	3.0	0.99
<b>Total</b>	<b>3,493</b>	<b>3,508.5</b>	<b>1.00</b>	<b>490</b>	<b>492.4</b>	<b>1.00</b>	<b>1,086</b>	<b>1,086.5</b>	<b>1.00</b>

Retirements - Males



### Retirements - Females



### 5.3.7 Optional Unit take up

The table below compares actual numbers of optional units (A) taken up by members who remain in force over 2006/7, 2007/8 and 2008/9 with those expected (E) to be taken up if the proportion of optional units taken up were to be as assumed in the valuation.

<b>Males</b>	<b>Post 1963 members</b>			<b>Pre 1963 members</b>		
<b>AGE</b>	<b>A</b>	<b>E</b>	<b>A/E</b>	<b>A</b>	<b>E</b>	<b>A/E</b>
41-45	8,911	8,911	1.00			
46-50	106,166	104,916	1.01			
51-55	267,902	265,508	1.01			
56-60	224,100	220,472	1.02	695	564	1.23
61-65	16,830	16,601	1.01	1,390	1,216	1.14
TOT	623,909	616,408	1.01	2,085	1,780	1.17
<b>Females R60</b>	<b>Post 1963 members</b>			<b>Pre 1963 members</b>		
<b>AGE</b>	<b>A</b>	<b>E</b>	<b>A/E</b>	<b>A</b>	<b>E</b>	<b>A/E</b>
41-45	1,129	1,129	1.00			
46-50	36,891	37,091	0.99			
51-55	70,402	67,704	1.04			
56-60	35,501	31,299	1.13			
61-65	4,927	4,656	1.06	24	22	1.11
TOT	148,850	141,879	1.05	24	22	1.11
<b>Females R55</b>	<b>Post 1963 members</b>			<b>Pre 1963 members</b>		
<b>AGE</b>	<b>A</b>	<b>E</b>	<b>A/E</b>	<b>A</b>	<b>E</b>	<b>A/E</b>
41-45	5,976	5,945	1.01			
46-50	35,834	36,635	0.98			
51-55	53,063	52,464	1.01			
56-60	5,256	4,747	1.11			
61-65	1,353	1,690	0.80	113	155	0.73
TOT	101,815	101,813	1.00	113	155	0.73

Rates of take up of abandoned units on exit are similar to the above except for ages over normal retirement when they are nearly 100%.

### 5.3.8 Pensioner Experience

#### 5.3.8.1 Members Commuting Pension Benefits

The table below shows the percentage of members eligible for commutation who elected to commute their pension in the period 1 July 2005 to 30 June 2008 compared with the percentage assumed in the valuation.

	Percentage pension commuted	Percentage pension assumed commuted
Retirement pensioners		
Males	6.3%	10%
Females	6.5%	10%
Ill-health pensioners at 55	13.0%	15%
Spouse pensioners at 55	19.7%	20%

The table below compares actual number of commutations (A) of reversionary pensions (including partial commutations) in the period 1 July 2005 to 30 June 2008 with the number expected under the valuation basis adopted for this valuation.

Age	Widows commuting			Widowers commuting		
	actual (A)	expected (E)	A/E	actual (A)	expected (E)	A/E
56-60	44.0	111.3	0.40	12.8	13.0	0.99
61-65	38.6	46.7	0.83	4.7	4.1	1.14
66-70	69.9	61.5	1.14	8.8	10.2	0.87
71-75	113.8	72.5	1.57	15.0	11.8	1.27
76-80	160.4	104.7	1.53	9.4	6.3	1.50
61-85	133.6	80.1	1.67	4.0	5.1	0.78
85+	59.9	28.0	2.14	6.2	2.5	2.44
Total	620.2	504.8	1.23	60.9	53.0	1.15

## 5.3.8.2 Mortality of Pensioners

The following tables compare the actual number of pensioners dying (A) in the period 1 July 2005 to 30 June 2008 with those expected to die (E) under the mortality assumed for the category of pensioner in the valuation basis (excluding allowance for future improvements in mortality). Results are shown only for groups with sufficient numbers to justify a comparison.

**Retirement Pensioners**

Age group	Males			Females		
	Actual deaths (A)	Expected deaths (E)	A/E	Actual deaths (A)	Expected deaths (E)	A/E
55-59	8	7.8	1.02	9	8.9	1.01
60-64	54	54.8	0.99	24	22.2	1.08
65-69	70	70.4	0.99	24	25.9	0.93
70-74	85	82.2	1.03	22	22.3	0.99
75-79	124	131.4	0.94	48	43.0	1.12
80-84	324	321.5	1.01	93	99.0	0.94
85-89	350	342.0	1.02	122	118.9	1.03
90-94	211	215.0	0.98	92	100.9	0.91
95-99	57	60.4	0.94	73	61.7	1.18
100+	9	6.4	1.40	9	9.8	0.92
<b>Total</b>	<b>1,292</b>	<b>1,292.0</b>	<b>1.00</b>	<b>516</b>	<b>512.5</b>	<b>1.01</b>

**Breakdown Pensioners - 1st year**

Age group	Males			Females		
	Actual deaths (A)	Expected deaths (E)	A/E	Actual deaths (A)	Expected deaths (E)	A/E
36-40						
41-45	1	0.5	2.13	0	0.3	0.00
46-50	2	2.8	0.71	4	1.4	2.77
51-55	9	10.0	0.90	7	4.4	1.60
56-60	14	15.6	0.90	2	2.0	0.99
61-65	1	1.5	0.68	0	0.2	0.00
<b>Total</b>	<b>27</b>	<b>30.4</b>	<b>0.89</b>	<b>13</b>	<b>8.3</b>	<b>1.57</b>

**Breakdown Pensioners - after 1<sup>st</sup> year**

Age group	Males			Females		
	Actual deaths (A)	Expected deaths (E)	A/E	Actual deaths (A)	Expected deaths (E)	A/E
36-40						
41-45	1	0.3	3.20	0	0.7	0.00
46-50	3	2.5	1.20	4	3.8	1.06
51-55	15	12.2	1.23	5	9.4	0.53
56-60	30	28.4	1.06	8	10.6	0.75
61-65	30	30.5	0.98	10	8.8	1.13
66-70	30	27.9	1.08	9	8.7	1.04
71-75	30	28.7	1.04	9	7.3	1.23
76-80	40	47.2	0.85	16	10.5	1.52
81-85	44	49.1	0.90	9	11.2	0.81
86-90	41	33.1	1.24	2	5.8	0.34
91-95	8	6.7	1.20	6	4.2	1.43
96-100	1	3.0	0.33	1	2.0	0.50
100+	0	0.0	0.00	0	0.0	0.00
<b>Total</b>	<b>273</b>	<b>269.6</b>	<b>1.01</b>	<b>70</b>	<b>69</b>	<b>1.01</b>

**Spouse Pensioners**

Age group	Widows			Widowers		
	Actual deaths (A)	Expected deaths (E)	A/E	Actual deaths (A)	Expected deaths (E)	A/E
41-45	1	0.1	13.07	0	0.0	0.00
46-50	1	0.5	1.93	0	0.0	0.00
51-55	2	1.2	1.73	0	0.1	0.00
56-60	4	1.8	2.25	0	0.3	0.00
61-65	5	4.9	1.02	1	0.5	2.16
66-70	11	9.6	1.15	4	0.7	5.91
71-75	19	16.8	1.13	4	1.7	2.33
76-80	68	52.9	1.29	6	4.1	1.48
81-85	120	148.5	0.81	7	5.7	1.23
86-90	225	260.8	0.86	8	7.0	1.13
91-95	232	283.3	0.82	5	6.5	0.77
96-100	120	120.8	0.99	1	1.2	0.83
100+	15	24.0	0.63	0	0.0	0.00
<b>Total</b>	<b>823</b>	<b>925</b>	<b>0.89</b>	<b>36</b>	<b>28</b>	<b>1.29</b>

**5.3.8.3 Proportions married at death**

The following tables compare the actual number of pensioners married at death (A) (including those assumed to have died although the death has not been confirmed) in the period 1 July 2005 to 30 June 2008 with those expected to be married at death (E) under the valuation assumptions for the category of pensioner.

**Retirement Pensioners**

Age group	Males				Females			
	Actual deaths	Actual married deaths (A)	Expected married deaths (E)	A/E	Actual deaths	Actual married deaths (A)	Expected married deaths (E)	A/E
56-60	8	5	6.7	0.75	10	5	6.2	0.81
61-65	57	43	42.4	1.01	26	11	15.4	0.71
66-70	70	54	45.1	1.20	23	8	9.4	0.85
71-75	89	62	52.9	1.17	23	8	5.4	1.47
76-80	136	77	75.5	1.02	46	9	7.3	1.24
81-85	346	208	166.3	1.25	108	8	11.6	0.69
86-90	328	145	119.7	1.21	113	5	10.6	0.47
91-95	204	68	45.9	1.48	98	3	4.9	0.61
96-100	42	7	3.3	2.15	65	0	0.0	-
100+	9	0	0.1	0.00	4	0	0.0	-
<b>Total</b>	<b>1,289</b>	<b>669</b>	<b>557.8</b>	<b>1.20</b>	<b>516</b>	<b>57</b>	<b>70.8</b>	<b>0.81</b>

**Breakdown Pensioners**

Age group	Males				Females			
	Actual deaths	Actual married deaths (A)	Expected married deaths (E)	A/E	Actual deaths	Actual married deaths (A)	Expected married deaths (E)	A/E
41-45	2	2	1.5	1.32	0	0	0.0	-
46-50	7	6	5.1	1.17	9	4	3.0	1.36
51-55	25	15	11.1	1.35	12	5	3.0	1.67
56-60	43	28	21.8	1.29	8	1	1.6	0.63
61-65	27	13	14.6	0.89	9	4	1.8	2.22
66-70	30	20	16.2	1.23	9	1	2.6	0.39
71-75	29	21	14.3	1.46	9	2	2.1	0.97
76-80	45	27	19.4	1.39	15	2	2.3	0.89
81-85	47	33	18.8	1.75	9	1	0.4	2.78
86-90	33	16	11.6	1.37	3	1	0.0	25.00
91-95	7	1	1.8	0.57	5	0	0.0	-
96-100	1	0	0.1	0.00	1	0	0.0	-
100+	0	0	0.0	-	0	0	0.0	-
<b>Total</b>	<b>296</b>	<b>182</b>	<b>136.3</b>	<b>1.33</b>	<b>89</b>	<b>21</b>	<b>16.6</b>	<b>1.26</b>

**Age of spouse**

	Actual age of spouse	Assumed age of spouse
Male pensioner	3.83 years younger than pensioner	3 years younger than pensioner
Female pensioner	2.11 years older than pensioner	2 years older than pensioner

### 5.3.9 Deferred Membership

The table below shows the rates of early withdrawal experienced by deferred members in the period 30 June 2006 to 30 April 2009.

Percentage of deferred members who withdraw per year	
Age group	Combined Males & Females
	%
36 - 40	0.00
41 - 45	0.75
46 - 50	0.49
51 - 55	0.96
Total	0.77

## 5.4 PSS

### 5.4.1 Rate of Salary Increase

For contributors who were in force at two consecutive 30 June review dates and for whom salaries were available at the two dates, the rates of salary increase over the period 30 June 2006 to 30 June 2009 experienced are shown in the table below.

	2006/2007 %	2007/2008 %	2008/2009 %	3 years %pa
Males	4.60%	6.04%	6.64%	6.35%
Females	6.20%	6.02%	11.63%	8.91%
All	4.77%	6.04%	7.15%	6.61%

Excluding contributors during a year over which their salary fell, the actual rates of increase over the period 30 June 2006 to 30 June 2008 were compared with the rates expected in the short term on the previous actuarial basis. The ratio of actual over expected salary for each age to actual over expected salary for the total group measures the suitability of the promotional scale.

General Salary Increases			
	Actual Increase Rate %	Expected Increase Rate %	Excess of actual salary increases over expected %pa
-Males	6.12%	5.55%	0.57%
-Females	8.33%	5.36%	2.97%
All	6.35%	5.53%	0.81%

Ratio of Actual/Expected at Age Shown to Actual/Expected for Total Group		
Age	Males	Females
36-40	1.01	1.01
41-45	1.00	1.01
46-50	0.99	0.98
51-55	0.99	0.97
56-60	0.99	0.97

#### 5.4.2 Rates of Resignation

In the following table, the actual numbers of resignations (A) that occurred in the period 1 July 2005 to 30 June 2008 are compared with the numbers expected (E) under the actuarial basis adopted for this valuation.

Age	Males			Females		
	A	E	A/E	A	E	A/E
36-40	3	6.4	0.47	1	1.1	0.94
41-45	5	4.4	1.13	1	1.0	1.00
46-50	7	4.0	1.74	0	0.3	0.00
51-55	0	3.7	0.00	0	0.1	0.00
56-60	2	0.0	-	-	-	-
Total	17	18.5	0.92	2	2.4	0.83

#### 5.4.3 Rates of Preservation

The table below compares the numbers of members who resign and preserve their benefits (A) with the numbers expected to preserve their benefits (E) on the actuarial basis adopted, based on the actual numbers of resignations, over the period 1 July 2005 to 30 June 2008.

Age	Males			Females		
	A	E	A/E	A	E	A/E
31-35	0	0.8	0.00	0	0.2	0.00
36-40	1	1.5	0.69	0	0.2	0.00
41-45	3	0.9	3.16	0	0.1	0.00
46-50	0	0.4	0.00	0	0.0	0.00
51-55	0	0.0	-	0	0.0	-
Total	4	3.5	1.14	0	0.5	0.00

#### 5.4.4 Rates of Mortality and Disability

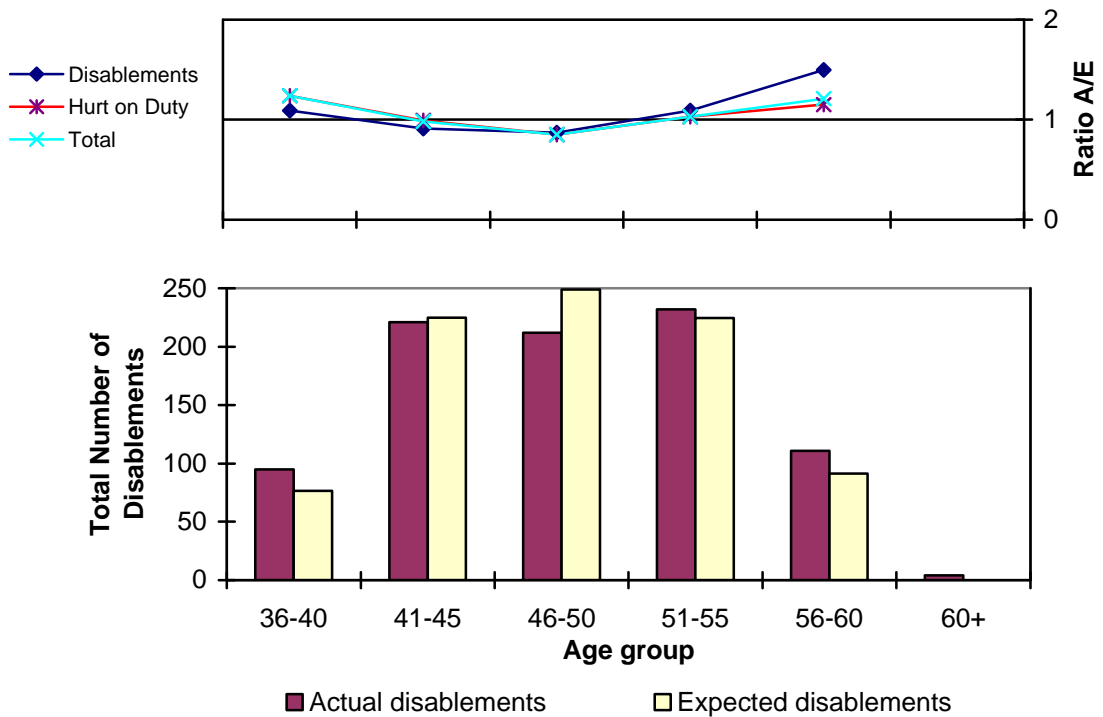
In the following table, the actual numbers of deaths (A) that occurred in the period 1 July 2005 to 30 June 2008 are compared with the numbers expected (E) on the valuation basis adopted for this valuation separately for killed on duty and not killed on duty.

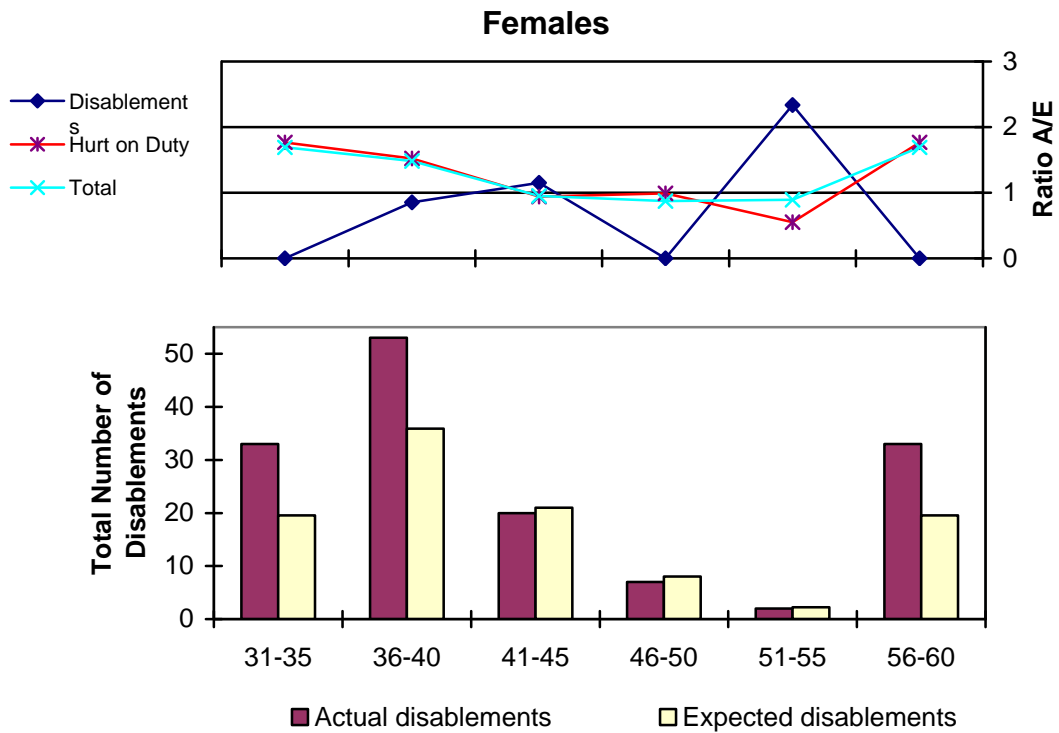
Age	Deaths		
	A	E	A/E
<b>Males</b>	<b>(not killed on duty)</b>		
36-40	0	0.5	0.00
41-45	1	1.4	0.73
46-50	4	1.5	2.73
51-55	1	1.3	0.77
56-60	3	0.7	4.24
61-65	0	0.1	0.00
<b>Total</b>	<b>9</b>	<b>5.5</b>	<b>1.64</b>
<b>Females</b>			
36-40	0	0.1	0.00
41-45	1	0.2	5.53
46-50	0	0.1	0.00
51-55	0	0.0	0.00
56-60	0	0.0	0.00
61-65	0	0.0	-
<b>Total</b>	<b>1</b>	<b>0.4</b>	<b>2.25</b>
<b>All ages</b>	<b>1</b>	<b>1.9</b>	<b>0.52</b>

In the following table and graphs, the actual numbers of disablements (A) that occurred in the period 1 July 2005 to 30 June 2008 are compared with the numbers expected (E) on the valuation basis adopted for this valuation separately for hurt on duty and not hurt on duty as well as combined.

Age	Disablements (not hurt on duty)			Hurt on Duty			Total Disablements		
	A	E	A/E	A	E	A/E	A	E	A/E
<b>Males</b>									
36-40	4	3.7	1.09	91	73.2	1.24	95	76.8	1.24
41-45	14	15.4	0.91	207	209.3	0.99	221	224.8	0.98
46-50	19	21.8	0.87	193	227.3	0.85	212	249.0	0.85
51-55	30	27.6	1.09	202	197.0	1.03	232	224.6	1.03
56-60	25	16.6	1.50	86	74.9	1.15	111	91.5	1.21
60+	0	0.0	-	4	0.0	-	4	0.0	-
<b>Total</b>	<b>92</b>	<b>85.1</b>	<b>1.08</b>	<b>783</b>	<b>781.6</b>	<b>1.00</b>	<b>875</b>	<b>866.7</b>	<b>1.01</b>
<b>Females</b>									
31-35	0	0.9	0.00	33	18.7	1.77	33	19.6	1.69
36-40	2	2.4	0.85	51	33.5	1.52	53	35.9	1.48
41-45	2	1.7	1.15	18	19.2	0.94	20	21.0	0.95
46-50	0	1.0	0.00	7	7.1	0.99	7	8.0	0.87
51-60	1	0.4	2.34	1	1.8	0.55	2	2.2	0.89
56-60	0	0.9	0.00	33	18.7	1.77	33	19.6	1.69
<b>Total</b>	<b>5</b>	<b>6.4</b>	<b>0.78</b>	<b>110</b>	<b>80.3</b>	<b>1.37</b>	<b>115</b>	<b>86.7</b>	<b>1.33</b>

**Males**



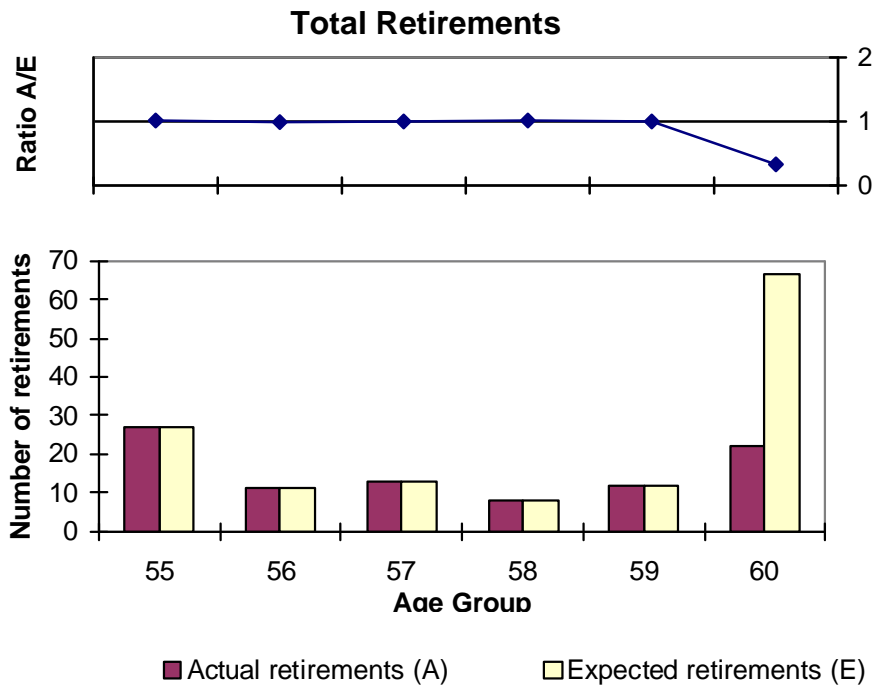


#### 5.4.5 Rates of Retirement

The actual numbers (A) of retirements in the period 1 July 2005 to 30 June 2008 are compared with the numbers expected (E) under the valuation basis over the same period.

##### Males and Females

Age	A	E	A/E
55	27	26.8	1.01
56	11	11.1	0.99
57	13	13.1	1.00
58	8	7.9	1.01
59	12	12.0	1.00
(60	22	66.7	0.33)
<b>Total</b>	71	70.9	1.00



#### 5.4.6 Pensioner Experience

##### Members Choosing Pension Benefits

The table below shows the percentage of members eligible for pension type benefits who elected to take the pension compared in the period 1 July 2005 to 30 June 2008 with the percentage assumed in the valuation.

	Actual percentage electing pension	Assumed percentage electing pension
Retirement exits	55.9%	50%
Ill-health pensioners on attainment of age 60	80.3%	70%

### 5.4.7 Mortality of Pensioners

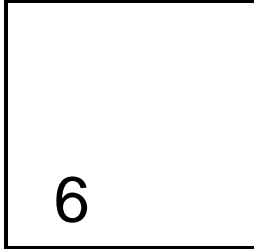
The following tables compare the actual number of pensioners dying (A) (including those assumed to have died although the death has not been confirmed) in the period 1 July 2005 to 30 June 2008 with those expected to die (E) under the mortality assumed for the category of pensioner in the valuation basis. Results are shown only for groups with sufficient numbers to justify a comparison.

#### Retirement and Spouse Pensioners

Age group	Males			PSS Widows		
	Actual number of deaths (A)	Expected deaths (E)	A/E	Actual number of deaths (A)	Expected deaths (E)	A/E
up to 60	0	0.5	0.00	0	0.2	0.00
61-65	3	2.3	1.29	0	0.5	0.00
66-70	2	2.3	0.86	2	0.8	2.58
71-75	5	2.2	2.31	4	2.0	2.03
76-80	21	22.7	0.92	10	8.6	1.16
81-85	70	60.2	1.16	25	26.3	0.95
86-90	52	60.0	0.87	42	37.8	1.11
91-95	34	36.7	0.93	32	40.0	0.80
96-100	4	2.3	1.76	19	21.2	0.90
100+	4	1.4	2.88	4	5.9	0.68
<b>Total</b>	195	190.7	1.02	138	143	0.96

#### Disability Pensioners (Males only)

Age group	Not hurt on duty			Hurt on duty		
	Actual number of deaths (A)	Expected deaths (E)	A/E	Actual number of deaths (A)	Expected deaths (E)	A/E
36-40						
41-45	0	0.0	0.00	2	1.8	1.12
46-50	1	0.5	1.89	3	3.0	1.01
51-55	2	2.1	0.96	7	6.0	1.17
56-60	5	6.0	0.84	6	10.6	0.57
61-65	4	4.1	0.97	11	8.2	1.34
66-70	0	1.8	0.00	4	3.7	1.07
71-75	1	2.7	0.38	1	1.5	0.69
76-80	12	9.3	1.30	4	3.3	1.22
81-85	13	12.7	1.02	6	6.2	0.96
86-90	4	6.1	0.66	5	4.9	1.03
91-95	4	1.7	2.36	1	1.8	0.55
96-100	0	0.0	0.00	0	0.0	0.00
100+	0	0.0	0.00	0	0.0	0.00
<b>Total</b>	46	47.0	0.98	50	50.9	0.98



## 6. Schedule of Employers

### 6.1 Part 1 The Crown and other employers

A Government Department or Administrative Office  
 Police Service  
 Health Administration Corporation  
 Water Administration Ministerial Corporation  
 Sydney Water Corporation  
 Hunter Water Corporation  
 Upper Parramatta River Catchment Trust  
 Western Lands Commissioner  
 Australian Museum Trust  
 Residual Business Management Corporation  
 New South Wales Treasury Corporation  
 Judicial Commission of New South Wales  
 Independent Commission Against Corruption  
 Bathurst-Orange Development Corporation  
 Clann Limited  
 Homebush Abattoir Corporation  
 Hunter Valley Catchment Management Trust  
 Justice and Police Museum Limited  
 Waste Recycling and Processing Corporation  
 New South Wales Film and Television Office  
 The Trustees of the Anzac Memorial Building  
 The University of Sydney  
 The University of New England  
 University of New England, Armidale Union (limited to persons who were contributors to the Fund immediately before becoming employed by the University of New England, Armidale Union)  
 The University of New South Wales  
 The Macquarie University  
 The University of Newcastle  
 The University of Wollongong  
 Australian College for Seniors Incorporated  
 Charles Sturt University  
 University of Technology, Sydney  
 University of Western Sydney  
 Southern Cross University

Children's Medical Research Foundation (limited to the employees whose names were specified in the Order made under the *Public Authorities Superannuation Act 1985* dated 16 April 1986 and published in the Gazette of 18 April 1986 at p 1694)

Garvan Institute of Medical Research (limited to those persons:

- (a) who were employees of that Institute immediately before 6 March 1998, and
- (b) who were members of the Fund immediately before that date)

St. Luke's Hospital (limited to persons who, immediately before the appointed day, were employees of the Hospital and also contributors within the meaning of the *Public Authorities Superannuation Act 1985* )

The New South Wales Teachers' Federation

Public Service Association of New South Wales

Australian Transport Officers Federation (New South Wales Division)

The Water and Sewerage Employees Union (Salaried Division and Wages Division)

Australian Railways Union

The Australian Tramway and Motor Omnibus Employees' Association

Australian Federated Union of Locomotive Enginemen

Construction Forestry Mining Energy Union (limited to the employee whose name was specified in the Order made under the *Public Authorities Superannuation Act 1985* dated 3 June 1987 and published in the Gazette of 5 June 1987 at p 2710)

The Police Association of New South Wales

Trustees of Arakoon State Conservation Area

Trustees of Bent's Basin State Conservation Area

Trustees of Burrendong State Conservation Area

Trustees of Burrinjuck State Conservation Area

Trustees of Copeton State Conservation Area

Trustees of Lake Glenbawn State Conservation Area

Trustees of Grabine State Conservation Area

Trustees of Killalea State Conservation Area

Trustees of Lake Keepit State Conservation Area

Trustees of Wyangala State Conservation Area

The Sydney Opera House Trust

Wentworth Park Trust

Zoological Parks Board of New South Wales

The Roads and Traffic Authority of New South Wales

The State Transit Authority of New South Wales

Home Care Service of New South Wales

The Hills Centre Limited (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Parramatta Park Reserve Trust

Parramatta Stadium Trust

Ambulance Service of New South Wales

University of Wollongong Recreation and Sports Association

The Trustees of the Roman Catholic Church of the Diocese of Lismore (limited to persons:

- (a) who were employees of St. Vincent's Hospital, Lismore, and contributors to the State Authorities Superannuation Scheme immediately before 31 October 1990, and
- (b) who continue after that date to be employees of the Hospital and contributors to that Scheme)

Australian Securities Commission (limited to those persons who:

- (a) immediately before 1 January 1991, were employed in the Government Department known as Business and Consumer Affairs, and
- (b) immediately before the date of assent to the *Statute Law (Miscellaneous Provisions) Act (No 2) 1991* , were employed in the service of the Commission, and
- (c) on being employed in that service, have elected to remain contributors to the Fund)

New South Wales Lotteries Corporation

TAFE Commission

Wild Dog Destruction Board

Audit Office

Lord Howe Island Board

New South Wales Casino Control Authority

Internal Audit Bureau of New South Wales

Australian Industrial Registry (limited to those persons:

(a) who on 3 February 1993 were employed by the Joint Coal Board constituted under the *Coal Industry Act 1946* as officers or employees of the Coal Industry Tribunal also constituted under that Act, and

(b) who, before becoming employed in the Australian Industrial Registry, have not elected to make provision for a preserved benefit as referred to in clause 3 (1) of Schedule 5)

Independent Living Centre (limited to Concetta de Bonis, Ann Louise Gibson, Jocelyn Frances Sloane and Melba Wu)

Public Transport Union NSW Branch (limited to existing employees of the Public Transport Union NSW Branch who were contributors to the Fund as at 1 March 1993 and employees who become employees on or after 1 March 1993 and who are contributors to the Fund immediately before becoming employees)

Government Pricing Tribunal of New South Wales

Financial Institutions Commission (limited to those persons:

(a) who, being contributors, were employed in the Registry of Co-operatives, Department of Local Government and Co-operatives, immediately before the transfer date specified in the order by which their employment was transferred to that Commission in accordance with clause 3 of Schedule 3 to the *Financial Institutions Commission Act 1992*, and

(b) who did not, before that transfer date, exercise their entitlement under this Act to make provision for a preserved benefit provided by section 43)

Sydney Organising Committee for the Olympic Games

New South Wales Aboriginal Land Council

Hawkesbury-Nepean Catchment Management Trust

TransGrid (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002*)

The Northcott Society (limited to:

(a) contributors in respect of any period during which they have been employees of the employer from and including 14 October 1988 (but only if they were employees of the employer on 18 December 1992), and

(b) other contributors in respect of any period during which they were employees of the employer from and including 14 October 1988 and before 18 December 1992)

Newcastle Port Corporation

Port Kembla Port Corporation

Sydney Ports Corporation

Maritime Authority of NSW

Port Macquarie Base Hospital (limited to those persons:

(a) who were, immediately before 2 November 1994:

(i) employees of Hastings District Hospital, Port Macquarie, and

(ii) contributors to the State Authorities Superannuation Fund, and

(b) who, on that date:

(i) transferred their employment to Port Macquarie Base Hospital, and

(ii) did not cease to be contributors to that Fund)

Great Southern Energy (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002*)

Delta Electricity

Macquarie Generation

Advance Energy (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Australian Inland Energy Water Infrastructure (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

EnergyAustralia (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Integral Energy Australia (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

NorthPower (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

FSS Trustee Corporation

SAS Trustee Corporation

The Corporation constituted under the *Superannuation Administration Authority Corporatisation Act 1999*

Rail Infrastructure Corporation

Hawkesbury District Health Service Limited (limited to persons:

(a) who were, immediately before 7 August 1996, employees of the Hawkesbury District Hospital, Windsor and contributors to the State Authorities Superannuation Fund, and

(b) who, on that date, transferred their employment to Hawkesbury District Health Service Limited and did not cease to be contributors to that Fund)

Benevolent Society of New South Wales (limited to Genoveva Almeida, Robyn Brooks, Adrian Ford, Caroline Lynn, Lynne Perl, Angela Plant, Elizabeth Sawtell, Beulah Warren, Pauline Wells and Barbara Wittig while continually employed by the Society)

Olympic Roads and Transport Authority

Australian Prudential Regulation Authority (limited to those persons:

(a) who, being contributors, were employed by the Financial Institutions Commission immediately before they became employees of the Authority under section 32 of the *Financial Sector Reform (New South Wales) Act 1999* , and

(b) who did not, before becoming employees of the Authority, exercise their entitlement to make provision for a preserved benefit under clause 3 (1) of Schedule 5)

Sydney Catchment Authority

Eraring Energy

Parramatta Rail Link Company Pty Limited

Catholic Health Care Services Limited (limited to those persons:

(a) who were employed at the Bodington Hospital, Wentworth Falls, immediately before 1 September 2001, or

(b) who were employees of Mid Western Area Health Service immediately before 1 October 2004 and transferred their employment to Macquarie Care Centre, Bathurst, on that date)

Mercy Care Centre Young Limited (limited to those persons who were employed at the Mt St Joseph's Residential Care Facility, Young, immediately before 1 September 2001)

The Trustees of the Roman Catholic Church for the Diocese of Lismore (limited to those persons who were employed at the St Joseph's Nursing Home, Lismore, immediately before 1 September 2001)

Landcom

Pacific National (NSW) Pty Ltd (limited to those persons who were, immediately before 21 February 2002, employees of the Freight Rail Corporation)

Asciano Services Pty Ltd (limited to those persons who were, immediately before 21 February 2002, employees of the Freight Rail Corporation)

A body corporate constituted under the *Local Government Act 1993* as a council or a county council (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002*, not being employees referred to in clause 11 of the *Superannuation Administration (Local Government Superannuation Scheme Transitional Provisions) Regulation 1997*)

A livestock health and pest authority constituted under the *Rural Lands Protection Act 1998*

The N.S.W. Local Government Industry Training Committee Incorporated  
Local Government Association of New South Wales (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002*)

Shires Association of New South Wales (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002*)

Electricity Association of New South Wales (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002*)

Health Services Association of New South Wales

Institute of Municipal Management (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002*)

New South Wales Nurses' Association

State Sports Centre Trust

Sydney Cricket and Sports Ground Trust

Australian Catholic University (limited to:

(a) contributors in respect of any period during which they have been employees of the employer from and including 1 April 1988 (but only if they were employees of the employer on 18 December 1992), and

(b) other contributors in respect of any period during which they were employees of the employer from and including 1 April 1988 and before 18 December 1992)

Government Employees Health Club (limited to:

(a) contributors in respect of any period during which they have been employees of the employer from and including 1 April 1988 (but only if they were employees of the employer on 18 December 1992), and

(b) other contributors in respect of any period during which they were employees of the employer from and including 1 April 1988 and before 18 December 1992)

Electrical Trades Union of Australia (New South Wales Branch) (limited to:

(a) contributors in respect of any period during which they have been employees of the employer from and including 1 April 1988 (but only if they were employees of the employer on 18 December 1992), and

(b) other contributors in respect of any period during which they were employees of the employer from and including 1 April 1988 and before 18 December 1992)

Little Company of Mary, Calvary Hospital, Wagga Wagga (limited to:

(a) contributors in respect of any period during which they have been employees of the employer from and including 1 April 1988 (but only if they were employees of the employer on 18 December 1992), and

(b) other contributors in respect of any period during which they were employees of the employer from and including 1 April 1988 and before 18 December 1992)

New South Wales State Cancer Council (limited to:

(a) contributors in respect of any period during which they have been employees of the employer from and including 1 April 1988 (but only if they were employees of the employer on 18 December 1992), and

(b) other contributors in respect of any period during which they were employees of the employer from and including 1 April 1988 and before 18 December 1992)

Sydney Credit Union (limited to:

(a) contributors in respect of any period during which they have been employees of the employer from and including 1 April 1988 (but only if they were employees of the employer on 18 December 1992), and

(b) other contributors in respect of any period during which they were employees of the employer from and including 1 April 1988 and before 18 December 1992)

Waverley-Woollahra Destruction Committee (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Richmond-Tweed Regional Library (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Richmond-Upper Clarence Regional Library (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Northern Area Regional Organisation of Councils (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Health Services Union, being the authority registered under that name on 1 October 2003 as a State industrial organisation of employees under Chapter 5 of the *Industrial Relations Act 1996*

Health and Building Surveyors Association of New South Wales (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Federated Municipal and Shire Council Employees' Union of Australia, New South Wales Division (limited to those employees who became employees after 1 July 1997 and before the commencement of the *State Authorities Superannuation (Local Government and Energy Employers) Order 2002* )

Trustees of the Roman Catholic Church for the diocese of Maitland-Newcastle (limited to those employees who were employed at St Joseph's Home, Sandgate, immediately before 11 October 2002).

Western Sydney Buses

Game Council of New South Wales

POWMRI Limited (limited to those employees who were employees of the University of New South Wales immediately before 21 July 2003)

Healthscope Limited (limited to those employees who were employed by Hospitals of Australia Limited immediately before 17 August 2003 and were contributors to the Fund immediately before that date)

Jenolan Caves Reserve Trust

St Catherine's Aged Care Services Ltd (limited to those employees who were employed at St Catherine's Villa, Eastwood, immediately before 7 November 2003)

Rail Corporation New South Wales

Transport Infrastructure Development Corporation

Independent Transport Safety and Reliability Regulator

Sydney Ferries

State Water Corporation

Cancer Institute (NSW)

Natural Resources Commission

New South Wales Institute of Sport

Australian Rail Track Corporation Ltd (limited to those persons who:

(a) become employees of Australian Rail Track Corporation Ltd on or after 1 June 2004 and not later than 31 December 2008, and

(b) cease to be employed by Rail Infrastructure Corporation, RailCorp or the State Rail Authority not more than 30 days before being so employed, and  
 (c) do not elect to cease to be contributors to the Fund within 30 days of commencing employment with Australian Rail Track Corporation Ltd).

National Office Products Ltd (limited to those persons:

(a) who were:

(i) employed in the Q Stores business unit of the Department of Commerce, and  
 (ii) contributors to the Fund,

immediately before 1 February 2005, and

(b) who, on that date, transferred their employment to National Office Products Ltd and did not cease to be contributors to the Fund)

Toll Pty Limited-limited to those persons who:

(a) immediately before 1 March 2005, were employed in the State Mail business unit of the Department of Commerce and were contributors to the Fund, and

(b) on that date, became employees of Toll Pty Limited and did not cease to be contributors to the Fund

Salmat Document Management Solutions Pty Limited-limited to those persons who:

(a) immediately before 16 April 2005, were employed in the Government Printing Service business unit of the Department of Commerce and were contributors to the Fund, and

(b) on that date, became employees of Salmat Document Management Solutions Pty Limited and did not cease to be contributors to the Fund

Calvary Retirement Community Cessnock Limited (limited to those employees:

(a) who were employees of Hunter Area Health Service immediately before 2 April 2003, and

(b) who, on or after that date, transferred their employment from Hunter Area Health Service to Calvary Retirement Community Cessnock Limited)

Police Federation of Australia

Events New South Wales Pty Limited-limited to those persons who:

(a) were employed in the Major Events Unit of the Department of State and Regional Development immediately before becoming employees of Events New South Wales Pty Limited, and

(b) became employees of Events New South Wales Pty Limited on or before 10 March 2009

Pacific National (QLD) Pty Ltd (limited to those persons who were, immediately before 21 February 2002, employees of the Freight Rail Corporation)

Pacific National (Tasmania) Pty Limited (limited to those persons who were, immediately before 21 February 2002, employees of the Freight Rail Corporation)

Pacific National (Victoria) Pty Ltd (limited to those persons who were, immediately before 21 February 2002, employees of the Freight Rail Corporation)

Murray-Darling Basin Authority (limited to those persons who were, immediately before 15 December 2008, employees of the Murray-Darling Basin Commission)

Sydney Metro

Greyhound Racing New South Wales (limited to persons who, immediately before 1 July 2009, were employees of the Greyhound and Harness Racing Regulatory Authority)

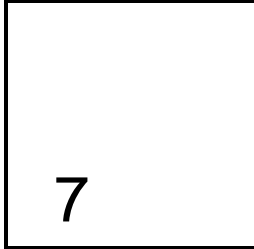
Harness Racing New South Wales (limited to persons who, immediately before 1 July 2009, were employees of the Greyhound and Harness Racing Regulatory Authority)

## 6.2 Part 2 Local government and other authorities

There are no employers under this Part.  
(all moved to the Local Government Superannuation Scheme or to Part 1)

## 6.3 Part 3 Public health organisations

A public health organisation within the meaning of the Health Services Act 1997



## 7. Apportionment of Benefits and sensitivity analysis

### 7.1 SASS

Where liabilities for expected future benefit payments under SASS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time  $t$  years after the valuation date:

- on retirement, partial disability, withdrawal with deferred benefit (before discount) and on total disability:

Past service component

$$= SAL_t \times ABP_0 \times 0.025 \times \left( 1 - \frac{\text{TaxPS}+t}{\text{PS}+t} \times 0.15 \right)$$

- on death:

Past service component

$$= SAL_t \times ABP_0 \times 0.025$$

- on resignation with 10 years' membership:

Past service component

$$= (\text{PS}+t) \times \text{MCI}_t \times \frac{\text{ABP}_0}{Y_t} \times 0.025 \times \left( 1 - \frac{\text{TaxPS}+t}{\text{PS} + t} \times 0.15 \right)$$

where:

ABP <sub>0</sub>	= accrued benefit points at time 0 (ie at 30 June 2009), subject to maximum points limit.
Y <sub>t</sub>	= as ABP <sub>t</sub> except not subject to maximum points limit
PS	= membership period to 30 June 2009, including previous fund membership
TaxPS	= membership period to 30 June 2009, excluding any period before 1 July 1988
SAL <sub>t</sub>	= salary at time t (Final Salary or Final Average Salary as appropriate to the particular benefit)
MCI <sub>t</sub>	= member contributions plus interest at time t, assuming member continues to contribute at his/her 30 June 2009 rate until achieving maximum points limit, less expenses and additional benefit levy where appropriate.

## 7.2 SANCS

Where liabilities for expected future benefit payments under SANCS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time t years after the valuation date:

Past service component

$$= \frac{\text{PS}}{\text{PS}+t} \times (\text{benefit payable in respect of SANCS membership})$$

$$+ \frac{\text{SGPS}}{\text{SGPS}+t} \times (\text{SG top-up, if any})$$

where:

PS = membership period to 30 June 2009

SGPS = membership period to 30 June 2009, excluding any period before 30 June 1992

### 7.3 SSS

Where liabilities for expected future employer-financed benefit payments under SSS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time  $t$  years after the valuation date:

- on retirement, withdrawal and preservation:

Past service component

$$= \frac{PS}{PS+t} \times \text{Value of employer-financed benefit commencing payment at time } t$$

- on death or disability:

Past service component

$$= \frac{PS}{TS} \times \text{Value of employer-financed benefit commencing payment at time } t$$

where:

PS = membership period to 30 June 2009, or normal retirement age if earlier

TS = membership period to normal retirement age.

PS+t = membership period to time  $t$ , or normal retirement age if earlier.

Value of employer-financed benefit = Value total benefit less amount of accumulated member contributions at time  $t$ .

## 7.4 PSS

Where liabilities for expected future benefit payments under PSS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time  $t$  years after the valuation date:

- on retirement, withdrawal and preservation:

Past service component

$$= \frac{PS}{PS+t} \times \text{Value of benefit commencing payment at time } t$$

- on death or invalidity:

Past service component

$$= \frac{PS}{PS+t} \times \frac{PS+t(\max 30)}{TS(\max 30)} \times \text{Value of benefit commencing payment at time } t$$

where:

PS = membership period to 30 June 2009, or normal retirement age if earlier

TS(max 30) = lesser of membership period to normal retirement age or 30 years.

PS+t = membership period to time  $t$ , or normal retirement age if earlier.

PS+t(max 30) = membership period to time  $t$ , or normal retirement age if earlier, limited to 30 years.

## 7.5 Sensitivity analysis

The results of the sensitivity analysis are set out in the following tables:

Basis	Unfunded liability under varying assumptions (\$million)				
	SASS	SANCS	SSS	PSS	Total
Standard	4,020.1	1,531.7	10,742.7	3,576.6	19,871.2
Investment return plus 1%	3,534.8	1,388.1	8,041.4	2,963.3	15,927.7
Investment return minus 1%	4,577.1	1,693.5	14,007.4	4,324.5	24,602.5
Salary increases plus 1%	4,495.8	1,694.5	11,053.4	3,684.9	20,928.5
Salary increases minus 1%	3,592.7	1,384.8	10,450.7	3,481.0	18,909.2
CPI increases plus 1%	4,103.2	1,531.7	13,789.8	4,248.8	23,673.5
CPI increases minus 1%	3,948.7	1,531.7	8,156.4	3,014.4	16,651.3
Rate of salary increase 3.5%	3,800.7	1,456.4	10,594.4	3,526.5	19,378.0

Decrease in unfunded liability (\$ million)					
Basis	SASS	SANCS	SSS	PSS	Total
Investment return plus 1%	485.3	143.6	2,701.3	613.3	3,943.5
Investment return minus 1%	-557.0	-161.8	-3,264.7	-747.9	-4,731.3
Salary increases plus 1%	-475.7	-162.8	-310.7	-108.3	-1,057.3
Salary increases minus 1%	427.4	146.9	292.0	95.6	962.0
CPI increases plus 1%	-83.1	-	-3,047.1	-672.2	-3,802.3
CPI increases minus 1%	71.4	-	2,586.3	562.2	3,219.9

From the above tables it is apparent:

- (1) Overall the rate of investment return has the major impact on the financial condition of the Pooled Fund;
- (2) For SASS and SANCS, the rate of salary increase also has a major effect;
- (3) For SSS and PSS, the rate of increase in CPI is very important because of the pension liabilities of those two Schemes.

It is also noticeable that a worsening of an economic parameter by 1% per annum has a greater dollar effect than a favourable change of 1% per annum. This can be explained algebraically.

Consider the present value of \$1 benefit payable in one year's time.

Let  $i =$  Standard discount rate ( $i > 0$ )  
 $? =$  Change in discount rate ( $0 < ? < i$ )  
 $D =$  Present value, discounted at the standard rate  
 $D_+ =$  Decrease in the present value when the discount rate is increased by ?  
 $D_- =$  Increase in the present value when the discount rate is decreased by ?

$$D = \frac{1}{1+i}$$

$$D_+ = \frac{1}{1+i} - \frac{1}{1+i+\Delta}$$

$$= \frac{\Delta}{(1+i)(1+i+\Delta)}$$

$$D_- = \frac{1}{1+i-\Delta} - \frac{1}{1+i}$$

$$= \frac{\Delta}{(1+i)(1+i-\Delta)}$$

$$D_+ / D_- = \frac{1+i-\Delta}{1+i+\Delta}$$

$< 1$  on the assumptions above since  $i - ? < i + ?$

That is, the decrease in the liability when the discount rate is increased by an amount is less than the increase in the liability when the discount rate is decreased by the same amount.

## 8

## 8. Matrix of Analysis of Surplus

## 8.1 Surplus and Deficiency Table

The items of surplus and deficiency as set out in Volume 1 are summarised here.

<b>Amounts of Surplus and Deficiency</b>					
<b>\$ million</b>					
<b>Item</b>	<b>SASS</b>	<b>SANCS</b>	<b>SSS</b>	<b>PSS</b>	<b>Total</b>
<b>Unfunded Liability as at 30 June 2006</b>	3,088.0	1,231.9	8,152.1	4,692.7	17,164.6
<b>Investment Earnings</b>	991.7	249.0	5,956.5	1,079.0	8,276.2
<b>Contribution shortfall</b>	-779.8	-249.9	250.9	245.9	-532.9
<b>GGLMF allocation (+interest)</b>	0.0	0.0	-5,152.5	-3,835.5	-8,988.0
<b>Change of Actuarial Basis</b>	-115.1	-33.9	-1,055.1	-86.9	-1,291.0
<b>Salary Increases</b>	126.0	67.4	150.4	78.8	422.6
<b>CPI Increases</b>	10.2	0.0	438.2	98.4	546.8
<b>Interest on previous unfunded liability</b>	694.9	277.2	1,963.9	1,128.9	4,064.9
<b>Disability rates</b>	0.0	0.0	0.0	117.7	117.7
<b>Exits</b>	-7.1	-0.7	76.5	18.0	86.7
<b>Other</b>	11.3	-9.3	-38.2	39.6	3.4
<b>Unfunded Liability as at 30 June 2009</b>	4,020.1	1,531.7	10,742.7	3,576.6	19,871.2

# MERCER



MARSH MERCER KROLL  
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